VOL. 1 No. 2
FALL 1983
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VIDEO & ARCADE games

GAMESTER OF THE YEAR:
TWO WORLD FAMOUS GAMERS MATCH WITS AND REFLEXES

GAME CONTROLLER UPDATE

KEN USTON:
MASTERING SUPER PAC-MAN

17 NEW ATARI VCS CARTRIDGES

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JOUST
RIVER RAID
DEFENDER
MINER 2049'ER
FAST EDDIE
SKIING
OTHELLO

MICRO PINBALL WIZARDRY

6 NEW HANDHELDS

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IN-DEPTH EVALUATIONS:
VECTREX RIP OFF & ARMOR ATTACK

DEMON ATTACK FOR ODYSSEY

SID THE SPELLBINDER

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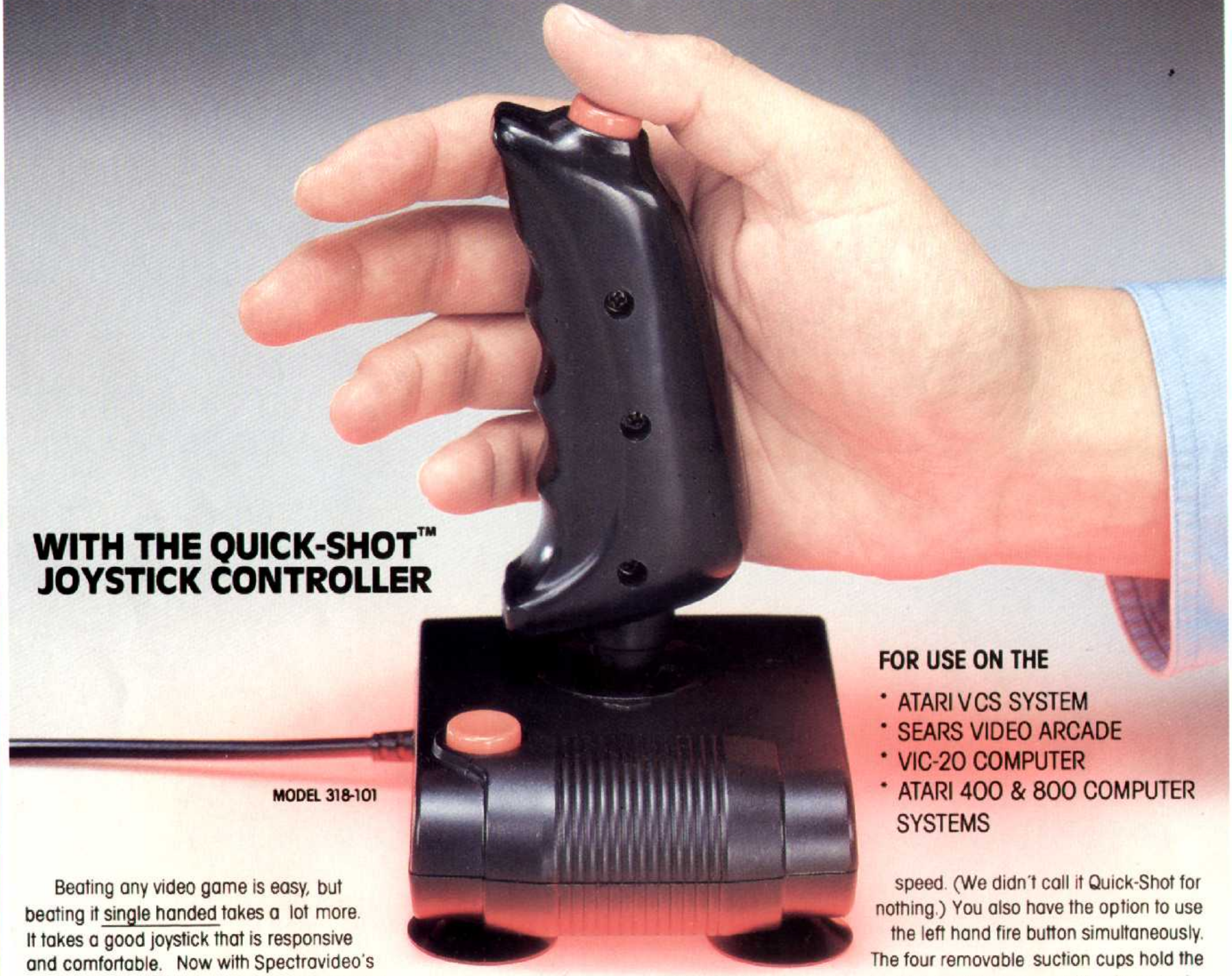

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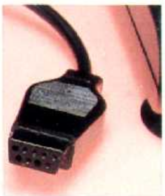

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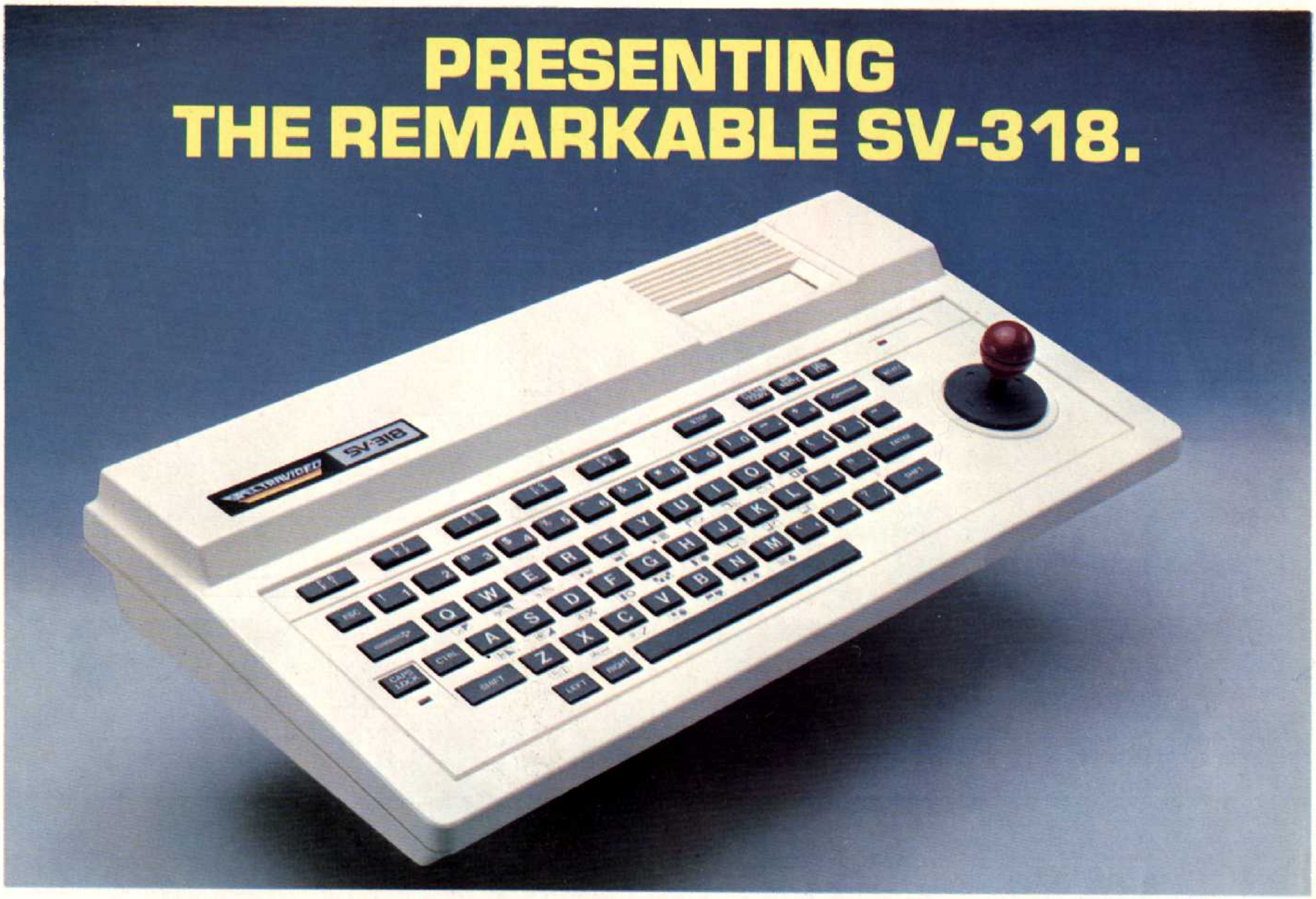

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BASE PRICE	$299	$1,540	$899	$595	$399	$299
COMPUTING POWER FEATURES						
BUILT-IN ROM	32K	12K	10K	20K	16K	8K
EXPANDABLE TO	96K	N/A	42K	N/A	32K	16K
BUILT-IN EXTENDED MICROSOFT* BASIC	YES	YES	ADDITIONAL COST	NO	YES	ADDITIONAL COST
BUILT-IN RAM	32K*	48K	16K	64K	16K	4K
EXPANDABLE TO	144K**	64K	48K	N/A	32K	16K
KEYBOARD FEATURES						
NUMBER OF KEYS	71	51	61	66	71	55
USER DEFINE FUNCTIONS	10	N/A	4	8	10	NONE
SPECIAL WORD PROCESSING	YES	NO	NO	NO	NO	NO
GENERATED GRAPHICS (FROM KEYBOARD)	YES	NO	YES	YES	NO	NO
UPPER/LOWER CASE	YES	UPPER ONLY	YES	YES	YES	YES
GAME/AUDIO FEATURES						
SEPARATE CARTRIDGE SLOTS	YES	NO	YES	NO	NO	NO
BUILT-IN JOYSTICK	YES	NO	NO	NO	NO	NO
COLORS	16	15	128	16	9	9
RESOLUTION (PIXELS)	256 x 192	280 x 160	320 x 192	320 x 200	256 x 192	128 x 64
SPRITES	32	N/A	4	8	N/A	N/A
SOUND CHANNELS	3	1	4	3	3	1
OCTAVES PER CHANNEL	8	4	4	9	8	10
A.D.S.R. ENVELOPE	YES	NO	NO	YES	YES	NO
PERIPHERAL SPECIFICATIONS						
CASSETTE	2 CHANNEL	1 CHANNEL	2 CHANNEL	1 CHANNEL	1 CHANNEL	1 CHANNEL
AUDIO IO	YES	NO	YES	NO	NO	NO
BUILT-IN MIC	YES	NO	NO	NO	NO	NO
DISK DRIVE CAPACITY	256K	143K	96K	170K	N/A	170K
(LOW PROFILE)	YES	NO	NO	NO	NO	NO
CP/M* COMPATIBILITY (80 column programs)						
CP/M* 2.2	YES	NO***	NO	NO ****	NO	NO
CP/M* 3.0	YES	NO	NO	NO	NO	NO

* 16K user addressable plus 16K graphic support
** 128K user addressable plus 16K graphic support
*** Apple II can accept modified 40 or 80 column CP/M
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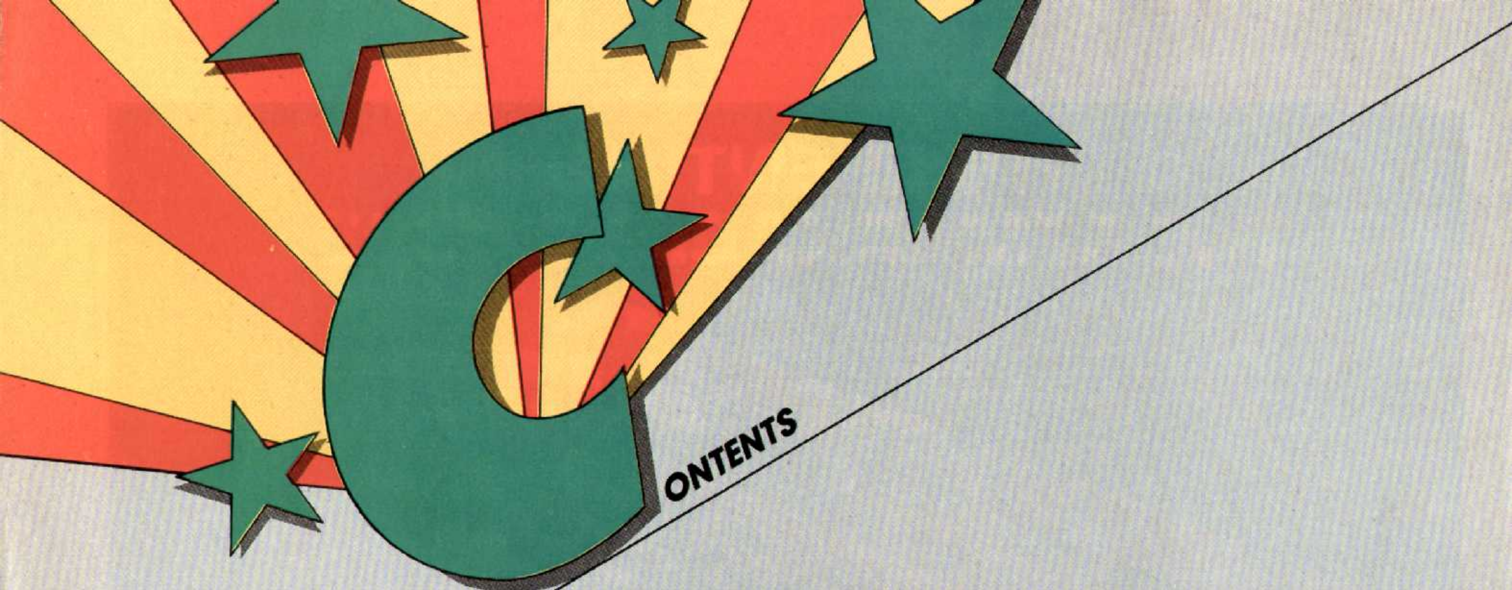

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VIDEO & ARCADE games

FALL
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Founder/Editor-in-Chief/**David H. Ahl**
Editor/**Elizabeth B. Staples**

Managing Editor/**Peter Fee**
Associate Editors/**John Anderson, Owen Linzmayer, Steve Arrants**

Editor-at-Large/**Ken Uston**
Contributing Editors/**Martha Koppin, William Brohaugh, Adam Thompson, Chris Vogeli, Matt Friedenberg, Vic Vogle, David Grosjean**

Art Editor/**Mariano Nicieza**
Design Consulting/**Don Menell Directions**
Advertising Director/**Jeff Weiner**

Consumer Computers & Electronics Magazine Division
President: Larry Sporn
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advertising sales

Advertising Director
Jeff Weiner
Creative Computing
Ziff-Davis Publishing Company
One Park Avenue
New York, NY 10016
(212) 725-7957

Advertising Coordinator
Ruth Darling

Creative Computing
Ziff-Davis Publishing Company
One Park Ave.
New York, NY 10016
(212) 725-3446

Northern California, Northwest
Jeff Miller
Ziff-Davis Publishing Company
3030 Bridgeway Blvd.
Sausalito, CA 94965
(415) 331-7133

Southern California, Southwest
Tom Whiteway
Ziff-Davis Publishing Company
3460 Wilshire Blvd.
Los Angeles, CA 90010
(213) 387-2100

New England
CEL Associates, Inc.
27 Adams Street
Braintree, MA 02184
(617) 848-9306

Midwest
Jeff Edman
The Pattis Group
4761 W. Touhy Ave.
Lincolnwood, IL 60646
(321) 679-1100

Southeast
Browning Publications
P.O. Box 81306
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(404) 455-3430

Mid-Atlantic
Larry Levine
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EDITORIAL/BY OWEN LINZMAYER

The response to our first issue has been overwhelming; the letters and phone calls keep coming in at a tremendous rate. If you haven't received a reply to your letter it is because we have received thousands of pieces of mail and we can't possibly respond personally to each and every one. Our ears, however, have not been deaf to your suggestions and comments. This second issue was written and designed with you in mind.

The feature article for this issue is the exclusive coverage of the Gamester of the Year Contest. The savage confrontation involves two of the most notorious gamers of the century: Dave Ahl, our publisher, and Ken Uston, card shark and video game master. The summer Olympics are small change in comparison to this breath-taking event.

You asked for it, you got it. For those of you who want to see how your scores measure up to those of the champions, take a look at our greatly expanded high score charts. In addition to the scores, we have a special feedback article in which we reveal facts about you, the typical reader. The results may surprise you.

Arm yourself with a roll of quarters and then dive into the coin-op arcade game section of the magazine. Steve Arrants, a new associate editor, has done a fabulous job of covering the recent Amusement Operators Expo. He has the inside scoop on the top 10 arcade games that you will be playing in the months to come.

So you say that you like Q*Bert but you just can't seem to get the hang of it? Check out the winning patterns devised by William Brohaugh. If they don't do it for you, nothing will. While we had Ken Uston in our clutches, we talked him into doing a piece on how to master Super Pac-Man. As you probably know, Ken is the author of the bestselling Signet paperback, "Mastering Pac-Man." Also in this issue is my probing look at the winning strategies for Joust, the ever-popular game from Williams.

Martha Koppin is back with an extensive Atari VCS games roundup—over 15 games covered! If setting high scores is your game, then flip to the articles on how to master such hits as *River Raid*, *Fast Eddie*, and *Defender*. Don't overlook the special sneak preview of *Robotank*, Activision's best yet. Behind every good man there is a great woman, and the story on *Ms. Pac-Man* is testimony to that. Don't feel bad if you don't own an Atari. If you have an Intellivision, Odyssey or Vectrex, there are plenty of interesting articles to be found between the covers of this magazine.

Computer buffs are in for a special treat this issue as John Anderson highlights the best of the video pinball games. This is required reading for anyone who has ever touched a set of flipper buttons. John also has the best darn patterns for mastering *Miner 2049er* on the Atari 400/800. We really pushed ourselves to the limit to bring you reviews of the best games available for the most popular home computer systems. Our staff of writers spent many a long afternoon "reviewing" game after game. Some call it play, others call it work.

In the self-contained section, Dave Ahl has the most complete coverage of pocket games ever printed in a video game magazine. If you are looking for a gadget to sneak into a classroom or an executive board meeting, Dave offers quite a selection for you to choose from. As a complement to Martha Koppin's piece on mastering Atari *Othello*, Dave has written about Gabriel's self-contained Computer Othello. You'll flip over this one. Lastly, Betsy Staples takes a look at Turtles, the game from Entex that is taking the country by storm.

That about wraps it up. We hope that you enjoy this issue of *Video & Arcade Games*. As you are reading this, we are hard at work dropping quarters, twitching joysticks, pounding buttons, and tapping away at keyboards to bring you the next issue of the magazine.

Until we meet again, may your aim be true and your firing button always ready. ■

The editors of V&AG would like to thank the following for their cooperation.

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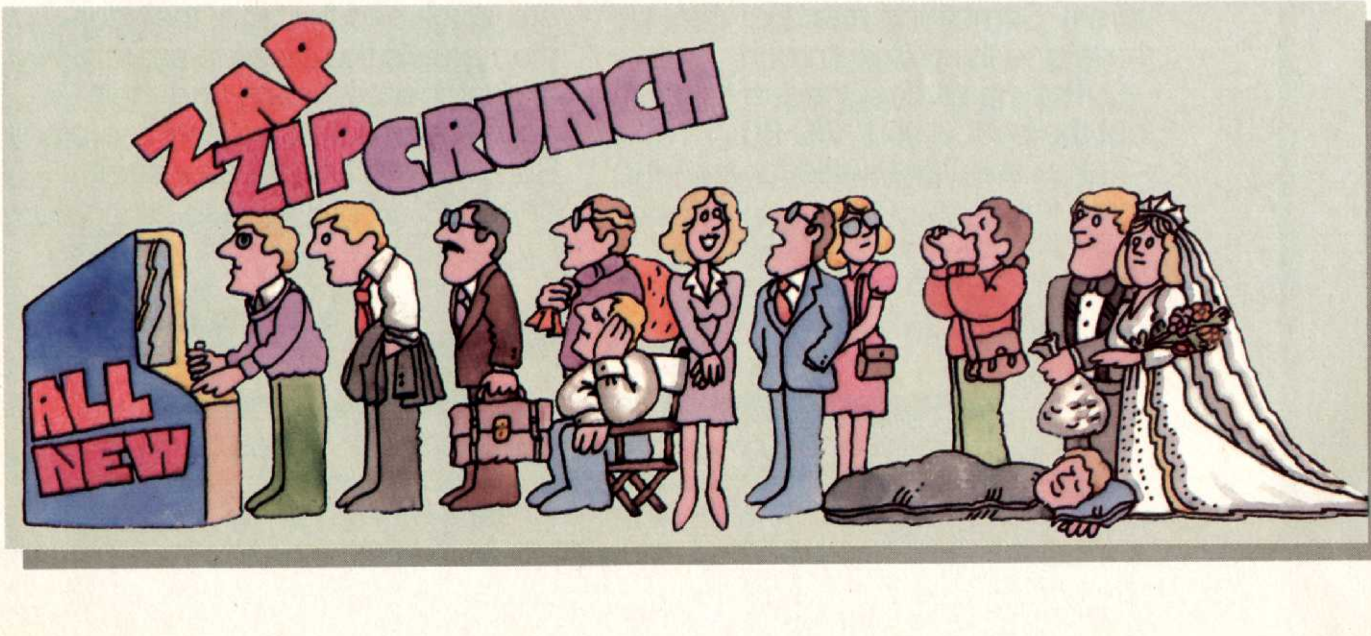
- *Family Fun & Games (Old Bridge, NJ)*



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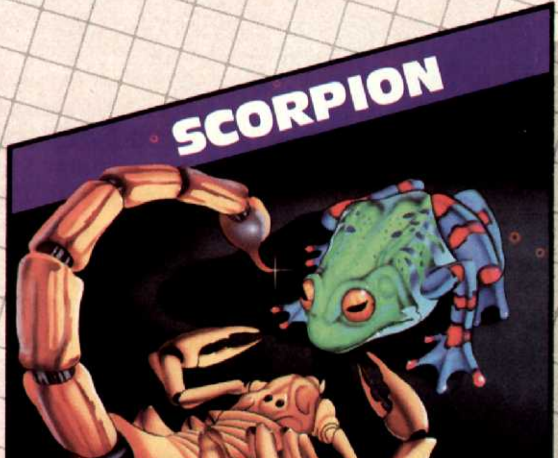

By
Jimmy Huey.

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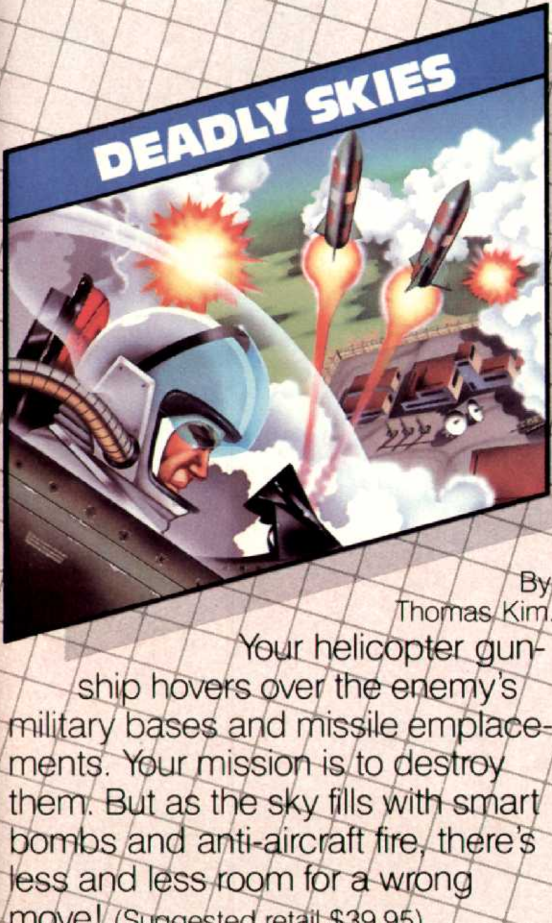

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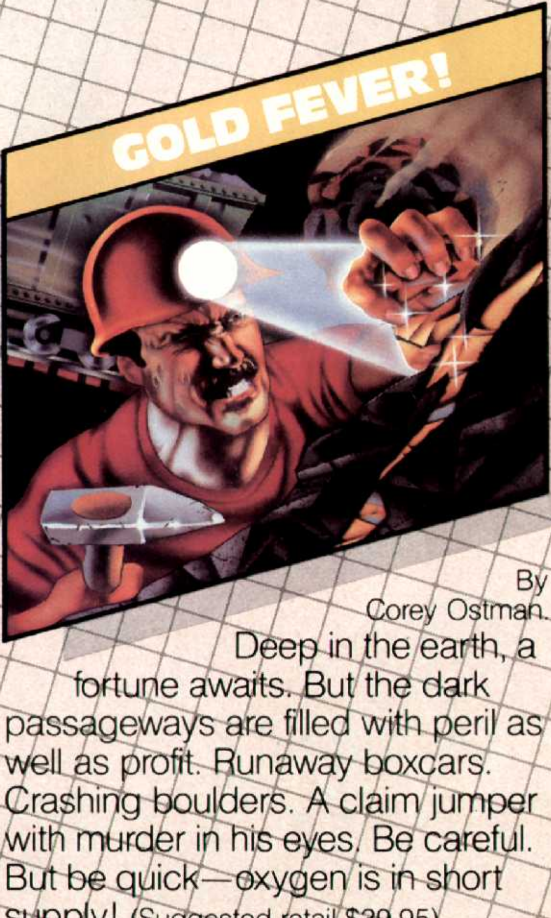

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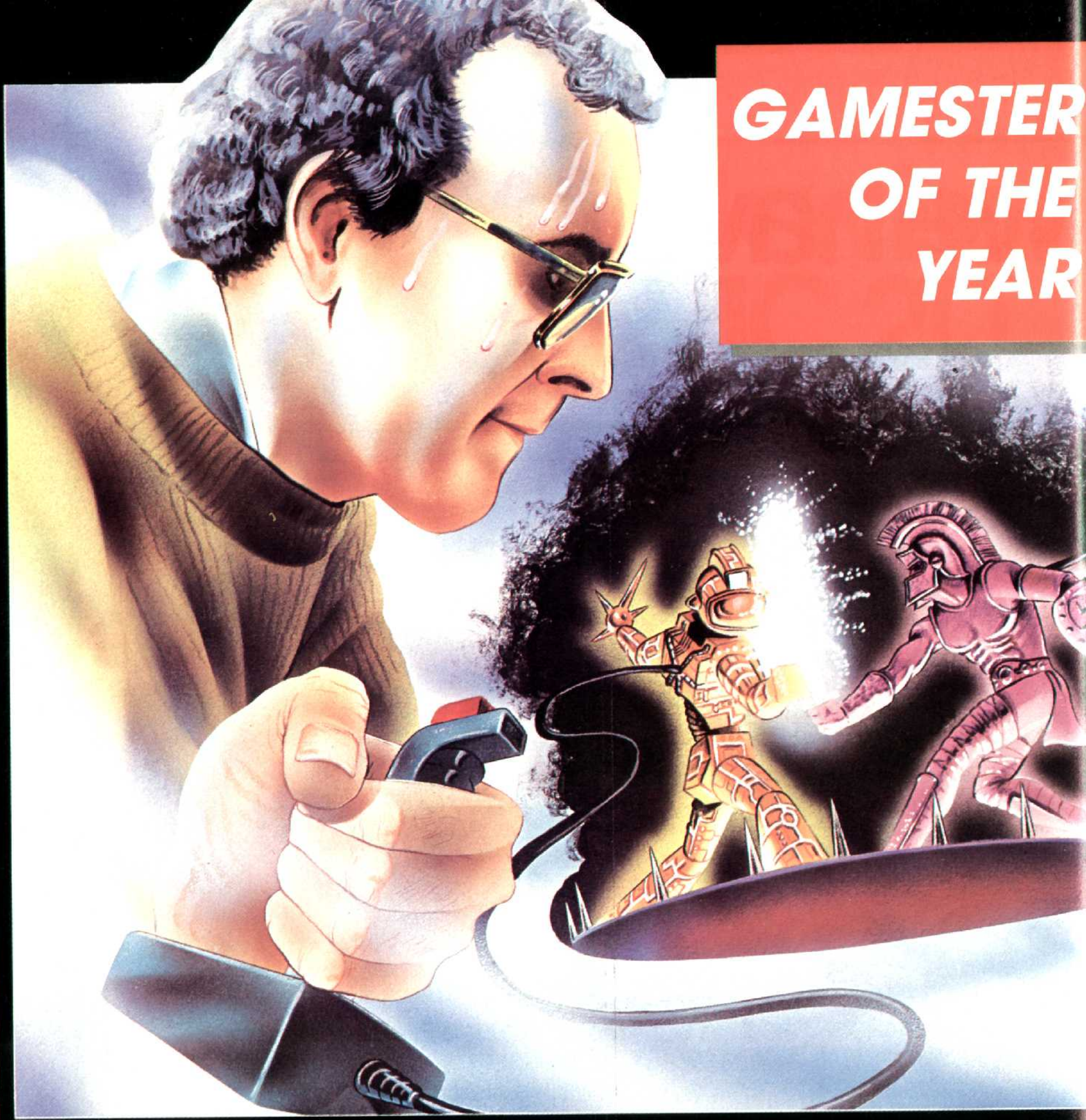
GAMESTER OF THE YEAR



BY JOHN J. ANDERSON

GAMER VS. GAMER

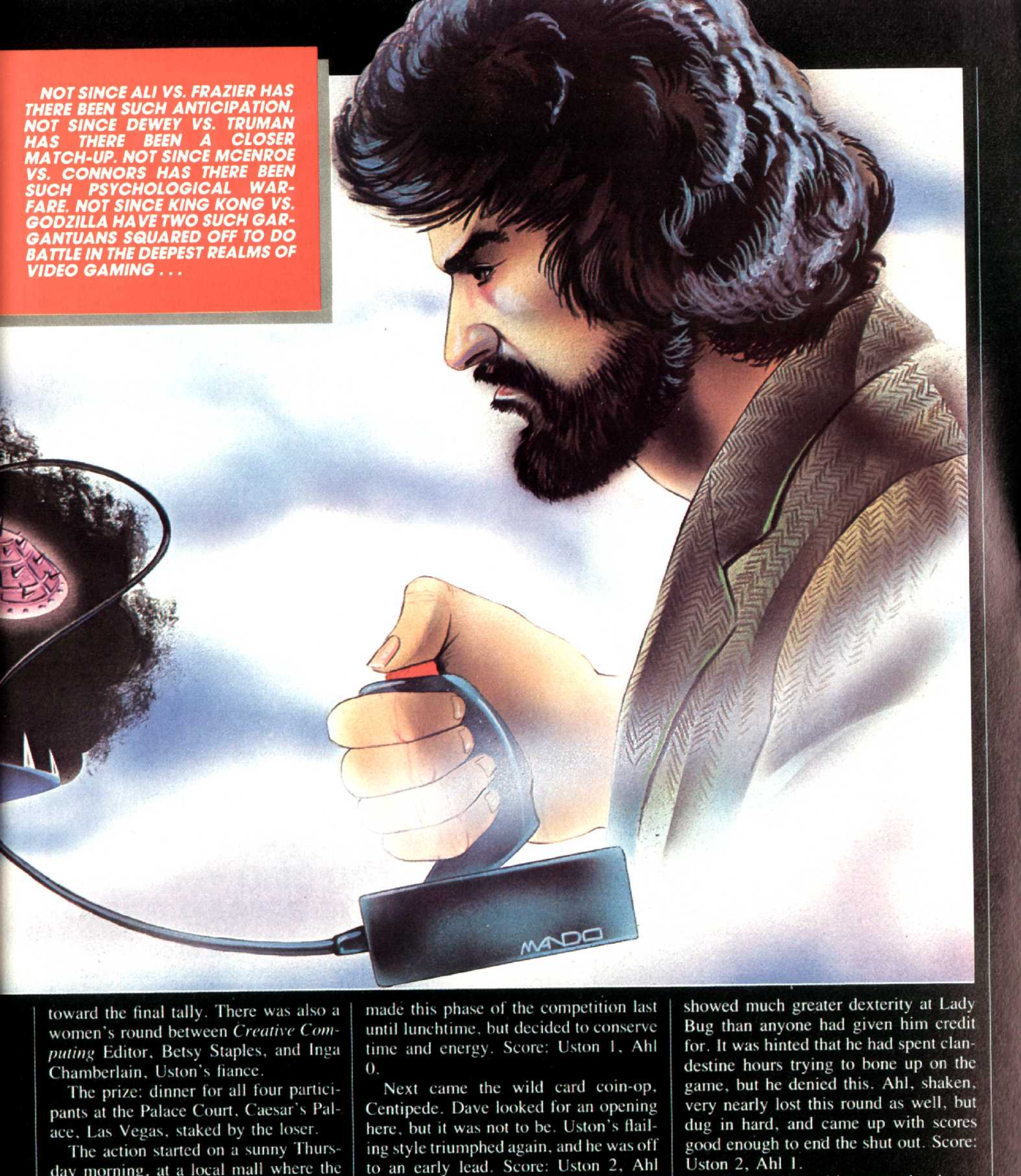
In this corner, Ken Uston. Master of blackjack, once barred from the best casinos because he knew how to win, video games expert and tactician extraordinaire, a man who can play Pac-Man until Blinky punches out for the night, Uston has authored several books on choosing and beating video games, as well as winning at blackjack.

He's light, but he's wiry, and what's more, he's wiley. And what's even more, he's a damned good pianist; I can vouch for that fact.

In this corner, David H. Ahl, founder, publisher, and editor-in-chief of *Creative Computing* magazine. Dave has been publishing microcomputer periodicals since the dawn of silicon civilization—since before there *were* microcomputers. The Boston Computer Society has called him "the father of personal computing." His books, which now number over 16, have become classics in the field, and people have enjoyed them indoors, too. And while he sometimes calls himself a "clod" at video games, Dave can really handle a joystick. When challenged by Uston to this behemothic contest for superiority in every form of video games, from coin-op to microcomputer to handheld, Ahl was confronted with an offer he couldn't refuse. He was certainly the person I was rooting for, because, you see, he is the person who pays my salary.

The challenge: a marathon mixed doubles video games match. The 15 that were chosen represented coin-op arcade games, computer games, home video games, and self-contained games. Ken and Dave each picked a game they wanted to play in each category, in addition to agreeing on a "wild card" entry. Each game was played on a "two out of three" wins basis, for a single point

NOT SINCE ALI VS. FRAZIER HAS THERE BEEN SUCH ANTICIPATION. NOT SINCE DEWEY VS. TRUMAN HAS THERE BEEN A CLOSER MATCH-UP. NOT SINCE MCENROE VS. CONNORS HAS THERE BEEN SUCH PSYCHOLOGICAL WARFARE. NOT SINCE KING KONG VS. GODZILLA HAVE TWO SUCH GARGANTUANS SQUARED OFF TO DO BATTLE IN THE DEEPEST REALMS OF VIDEO GAMING . . .



toward the final tally. There was also a women's round between *Creative Computing* Editor, Betsy Staples, and Inga Chamberlain, Uston's fiance.

The prize: dinner for all four participants at the Palace Court, Caesar's Palace, Las Vegas, staked by the loser.

The action started on a sunny Thursday morning, at a local mall where the first segment of the competition was played out.

Ken's arcade choice was Pac-Man, a game with which he had something of an advantage, as he has written a book about it. Dave knew he wasn't going to pull an upset on this one. Ken could have made this phase of the competition last until lunchtime, but decided to conserve time and energy. Score: Uston 1, Ahl 0.

Next came the wild card coin-op, Centipede. Dave looked for an opening here, but it was not to be. Uston's flailing style triumphed again, and he was off to an early lead. Score: Uston 2, Ahl 0.

Close associates hinted that Ahl was starting to get psyched out, but he looked forward to mastery in his arcade choice, Lady Bug, back at the offices of *Creative Computing*.

Controversy arose when Uston showed much greater dexterity at Lady Bug than anyone had given him credit for. It was hinted that he had spent clandestine hours trying to bone up on the game, but he denied this. Ahl, shaken, very nearly lost this round as well, but dug in hard, and came up with scores good enough to end the shut out. Score: Uston 2, Ahl 1.

Next the competition moved to home video games. *Cosmic Avenger* for the Colecovision was Uston's choice, and he won it handily. Ken calls the game one of his favorites. Dave triumphed at *Worm War I* for the Atari VCS, written by *Creative Computing* veteran David

It's sometimes tough for Dave to deny he's got a monkey on his back.

Ken calls Pac-Man a "relaxing game." His games last for hours, sometimes. I left for coffee.

A pitiful showing. Dave says he was "psyched out." And just because his opponent wrote a book about the game!

Perhaps Dave could use Centipede to gain the initiative.

Dave is a "mouth-moving" gamester. His lips will be white for days.

Ken, on the other hand, is a "stance-shifter." Give him lots of room, or chance getting clipped.

I found the revelation fascinating.

Back on his home turf, Dave nearly choked on the Ladybug round. Note the mouth set.

"I swear, I never played this before in my life," Ken affirms.

Inga Chamberlain, Ken's betrothed, discovers Snap Jack.

Editor Betsy Staples shows her how its done.

Starhawk was the game challenge on the Vectrex unit.

Ken tried to gain advantage through a cross-handed style, but Dave's comeback was in the works.

The game watch, in this reporter's opinion, was the turning point in the match.

After six hours of play, the strain is beginning to show—note the glazed look on Uston's face.

Dave? It's 6:30. Dave. You're not blinking, Dave. Dave?

Lubar. After a very close match-up in *Missile Command* for the Atari 5200, Uston again emerged victorious. Score: Uston 4, Ahl 2.

As local bookmakers moved frantically to change the odds, the contest moved to the stand-alone segment. Dave locked into gear in this phase of the competition, and just when he was about to be counted out, managed to sweep all three games in the category. *Starhawk*, for the Vectrex, stymied Uston completely until he assumed a cross-handed playing style. The "Attackers" mode on the tabletop Coleco Galaxian left him similarly perplexed. But it was "Firing Squad" on the GCE Game Time Watch that really turned the momentum in Dave's favor. The crowd gasped as Dave surged into a narrow lead. Score: Ahl 5, Uston 4.

The final phase of competition consisted of microcomputer games, and by this time (six hours into the contest) strain was beginning to show on the faces of both competitors. Nevertheless, Uston turned in an extremely impressive round of *Sea Fox*, by Broderbund, on the Atari 800 computer. His winning round lasted over an hour—"I can play a single game indefinitely if I concentrate," he stated. It was tied. Score: Uston 5, Ahl 5.

But Ahl was on home turf when it came to microcomputers. He beat Uston in rounds of *Cosmic Fighter*, by Big Five for the TRS-80 and *Tsunami*, late of the now defunct Creative Computing software label, for the Apple computer. Reeling from recurrent joystick elbow and raster pixelation, Ahl celebrated his victory. "Did I do it," he asked? "Let's get out of here and get something to eat." Uston mumbled something about a fix, but finally shook hands with Ahl and congratulated him on the win. "Just wait til next year," Ken threatened. His eyes were glazed from staring.

In the women's competition, Betsy "Swingline" Staples shut out Inga "Tubetop" Chamberlain in straight sets of Ms. Pac Man, Snap Jack, and Atari *Galaxian*, thus sealing the win for the Ahl Computing team.

The final score: Ahl team 8, Uston team 5.

The match took its toll. The next day, both men complained of aching wrists, sore shoulders, and trigger cramp. But none of these factors kept them away from the games for long. "It's like a daily fix for me," Ahl said. "Got any new games," Ken asked? ■

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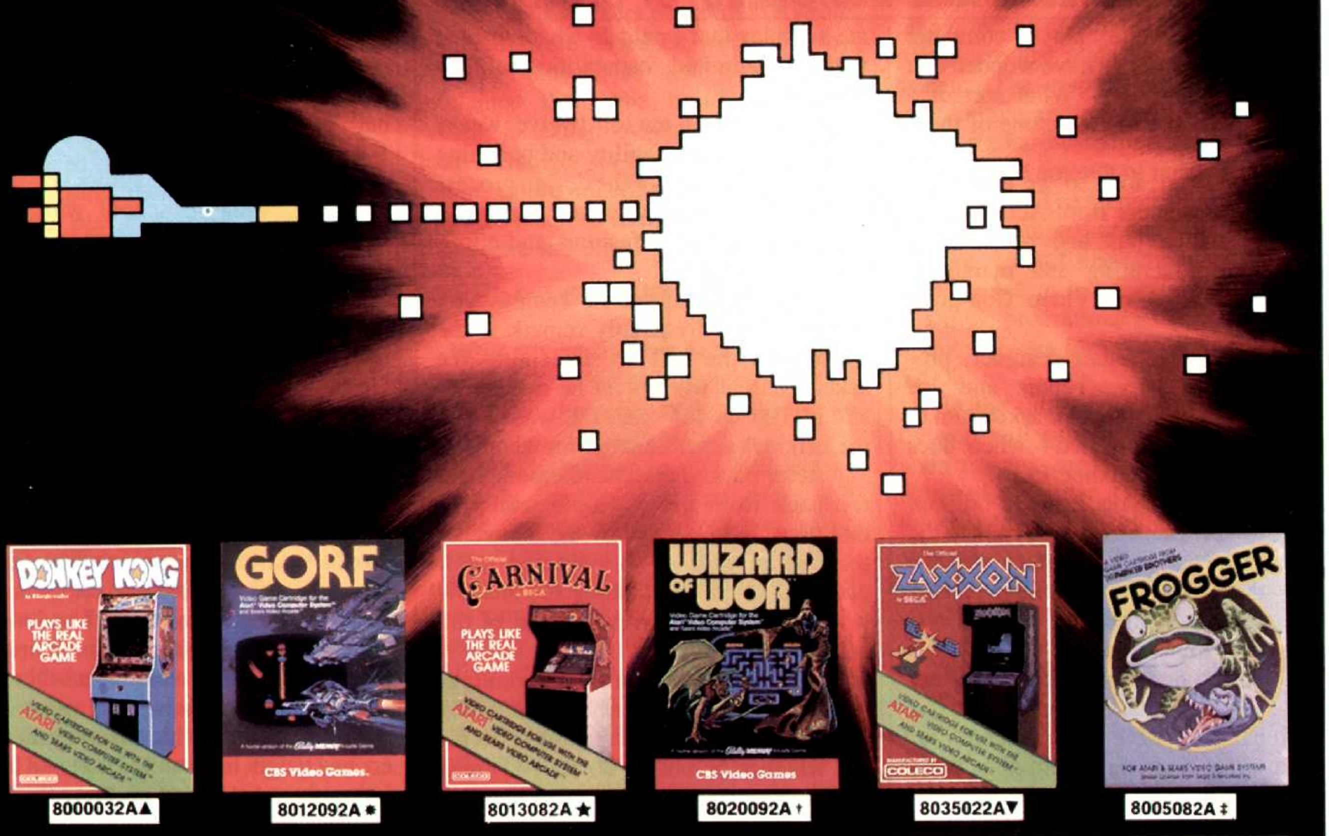

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101/103

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CIRCLE 7 ON READER SERVICE CARD

INTERVIEW

WITH THREE GAME DESIGNERS / BY DAVID H. AHL AND BETSY STAPLES

Almost everyone plays computer games, and most of us have wondered at one time or another: "What sort of a mind does it take to create one of these things?"

We wondered, too, so we had a talk with three designers from Activision, a company which has had phenomenal success manufacturing and marketing games for the Atari Video Computer System.

Alan Miller, a senior designer, programmed Checkers, Tennis and Ice Hockey for Activision. We asked him to tell us about getting started—where does the idea for a game come from?

"Occasionally you have a brilliant thought—one that brings you right to the theme of the game. It is perfect; you can follow that thought and that theme all the way and implement it on the game system almost immediately."

How often does that happen? "Very rarely. Usually what happens is that you get stuck. You have just finished your last cartridge and you're thinking 'What am I going to do next?'

"You think for a couple of weeks and you come up with some ideas that you hope will work. Then you have to consider the technical limitations of the machine. Some of your great ideas simply can't be done. That probably eliminates about 90% of the ideas we have.

"But after a week or two you find an idea you are happy with and you begin to pursue it. That's when the real work starts."

TENNIS

We asked Alan for some specifics. How, for example, did he go about programming the Tennis cartridge?

"Well, one of the best cartridges I did while working at Atari was Basketball. I particularly enjoyed working on the perspective aspect of the game design. I also enjoy playing tennis very much, so I put the two ideas together and decided to do Tennis.

"I knew basically what I wanted to do with the game when I started. It took about two weeks of intense work to create a display that would do what I wanted with the limited capabilities of the VCS.

"I then spent ten or twelve weeks working on the playability and polishing the game. That part of the design process is essentially an editing function—you expand on the good features and eliminate the bad ones."

One of the features in Tennis upon which players frequently remark is the shadow of the ball on the court. We asked Alan at what point he decided to add it. The shadow, he said, was part of the original game concept for Tennis.

"After Basketball was released, I got feedback from many people who said that they could not follow the motion of the ball as well as they wanted to. It occurred to me that adding the shadow would help make the perception of the perspective better.

"So, it was there from the beginning. It turns out to be a very trivial task to add it on the VCS. The critical thing is deciding whether or not to do it; you must realize that it is necessary."

We commented on the apparent high resolution of Tennis and several of the other Activision games, and wondered how it was achieved.

Alan responded, "We have learned no new secrets about the Atari VCS; we are using the same technical information that we have been using for the past four or five years. I think our success in getting the most out of the machine is attributable mainly to experience and hard work."

What about program size? Do they use more memory in the current cartridges than they did in the earlier ones?

"In general, yes. Our programs in the early days were only 2K programs. We have recently gone to the 4K size because the expectations for video games have risen dramatically over the past year or two.

"Tennis is still in 2K—I did a lot of scrunching. I compressed my code, optimized it for space, and was able to put in five running graphics for the players and several different pictures of a swinging racket. This was in contrast to only two pictures of running graphics in Basketball."

BARNSTORMING

Steve Cartwright, author of Barnstorming, went to school with David Crane, one of the original Activision designers. Later, he worked for National Semi-Conductor.

"When Activision decided to expand their design staff, Dave thought of me. He thought I would fit into the group, that my personality would be similar to the other people in the group. I had the technical background, and he taught me some of the secrets of game design."

Was his work at National Semi-Conductor helpful in preparing him for his new job? "I worked on semi-conductors—nothing in software. I had a little software back in college, but nothing can prepare you for game design other than sitting down and doing it."

We asked him what the other designers had taught him—what sort of a learning process he had to go through. "Basically," he said, "these guys have been at it longer than anyone in the industry. They were among the original designers at Atari and they just have more experience to draw upon.

"They tried to teach me everything they had learned over the years, and spent some time comparing what was considered good a couple years ago with the current standards. The standards have improved a great deal because of little tricks they have learned to make the colors seem nicer, the graphics sharper, etc."

All of the programs on the VCS cartridges are, of course, written in machine language. How is writing a program for a game unit different from writing a machine language program for an Apple, PET, TRS-80 or other small computer, we asked.

Steve explained, "Since the Apple, PET and Atari VCS all use a 6502 processor, we're talking about the same assembly language. What we do with the

VCS is to control on a very low level the video display hardware. The main difficulty we have with VCS programming is that it is very time-critical—you must execute commands to the display hardware on a microsecond basis.

"We try to put as much as we can into the program to provide as much as possible to the customer at as low a cost as possible. We scrunch a lot into our code—something you don't have to do on other systems."

Barnstorming is different from any of the arcade games. We asked Steve how the idea for the game developed. "The idea came to me in about two seconds, but it took three months to translate that idea into a playable game.

"We are constantly coming up with and rejecting ideas," he said. "We find ourselves imagining everything we see around us as a video game." It just happened that it was possible to translate the idea of barnstorming into a game."

MAKING THE COMPUTER INTELLIGENT

Carol Shaw, the newest member of the design team, is a Phi Beta Kappa with a master's degree in computer science. We asked her how she became involved with video games.

"My family always played lots of games," she told us. "We started with board games, and when the video games came out, we started playing them and fell in love with them."

Following her graduate work, she went to work for Atari because "it just seemed like a great job—playing games for a living." Among the games she has programmed are Checkers and 3-D Tic, Tac, Toe. We asked how programming simulations of classic games differs from designing the action games for which Activision is famous.

"I have always been interested in making the computer intelligent, because that is something that you cannot get from a board game. You can actually have an intelligent opponent to play against. But it is not that different from Tennis, for example. In both cases you must concentrate on graphics and action as well as making the computer intelligent."

Carol told us that some of the routines used in the Checkers program she wrote for Atari were based on work done by Arthur Samuels in the 1950s. She explained that "the basic algorithm, which is called Alpha-Beta pruning, hasn't changed in all those years. The major improvements since then have been the result of faster processors rather than more intelligent algorithms."

SHOULD YOU QUIT YOUR DAY JOB?

What advice do these Activision game designers have for readers who are frustrated with their jobs and would like to be designing games instead?

Alan advises becoming proficient in assembly language programming and asking friends for feedback on game ideas. "Our creative efforts are strongly influenced by the comments we get from our coworkers, friends and families; they give us good ideas. You must realize that you, as an individual, might not recognize the best things that can come out of your own game. And you may have to make compromises, because other people may view your game differently than you do."

It also helps to live in Silicon Valley, "where you can talk to people who have been involved in this business for five or ten years. It helps to have all the ideas going back and forth.

"The financial climate in and around the Valley is also more receptive to the formation of new companies. There is a sort of entrepreneurial spirit there; people are willing to take a risk and start a new company."

THE FUTURE OF THE VCS

Is the design team interested in experimenting with games other than the action-type which has dominated their product line to date? What about fantasy or adventure games?

Alan replied, "Yes, but there are many technical limitations—adventure games are just plain hard to do on that system. The graphic display system is very simple and not set up for text."

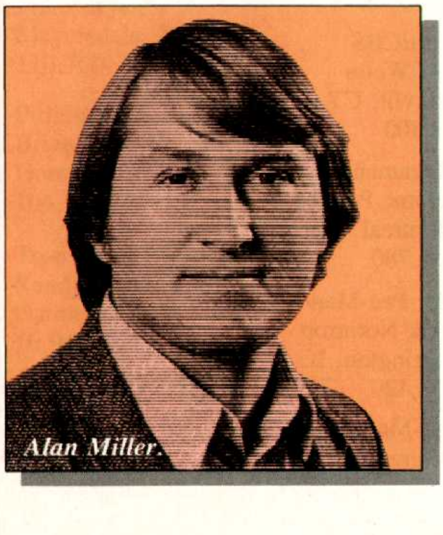
Is it the hardware limitation of the processor or the amount of memory that can be built in? "The technical limitations to which I am referring are primarily in the display. I don't think memory size will be a limitation in future programs."

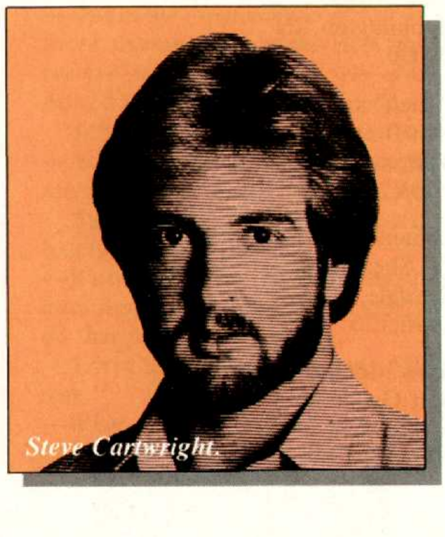
Do the programmers anticipate developing software for the new Atari System 5200?

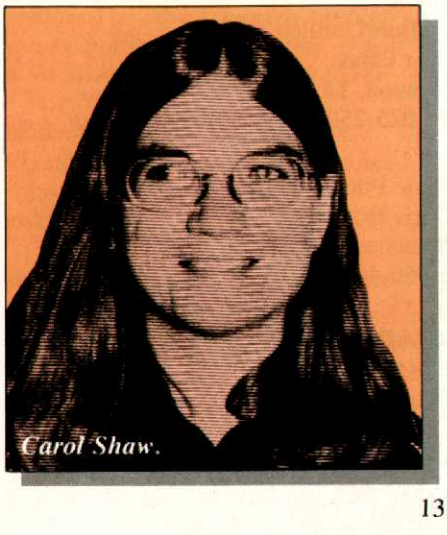
"In the future," Alan replied, "Activision will supply entertainment software for any successful video game or personal computer. Only time will tell if the new Atari game will be a commercial success."

How do they feel about recent attempts to implement popular arcade games on the VCS?

"Atari, Coleco, Parker Brothers and several other companies have bought rights to some of the coin-operated arcade games. But you must remember that with a coin-op game you have between $1000 and $2000 worth of hardware to work with; you have a specialized screen and a specialized controller for each one. There is no way they can afford to put those sophisticated hardware controls in a home system; it is extremely difficult to duplicate the play value of an arcade game in a home game." ■


Alan Miller.


Steve Cartwright.


Carol Shaw.

SURVEY OF HIGH SCORES

COIN-OP ARCADE GAMES

Baby Pac-Man/Bally
Leo Daniels
Wrightsville Beach, NC
389,900

Buck Rogers/Sega
Mychal Evans
Peo, IL
514,870

Front Line/Taito
Don Randolph
State College, PA
37,600

Joust/Williams
Chuck Drevo
Silver Springs, MD
3,557,250

Jungle Hunt/Taito
Dan Cook
Woodbridge, VA
943,430

Millipede/Atari
Ben Gold
Dallas, TX
1,371,507

Moon Patrol/Williams
Eric Ginner
Sunnyvale, CA
740,070

Popeye/Nintendo
Craig Biertempfel
Glenshaw, PA
360,400

Q*Bert/Gottlieb
Ron Urias
Newton, IA
11,025,250

Time Pilot/Centuri
Chris Boylan
Manchester, NH
5,456,400

ATARI 400/800/1200 GAMES

Bandits/Sirius
John Fritz
Jersey City, NJ
128,450

Canyon Climber/Datasoft
Terry Rora
Roanoke, IL
92,800

Centipede/Atari
Eric Lauritzen
Chatsworth, CA
2,000,210

Frogger/Sierra On-Line
Robert Rendahl
Torrance, CA
249,805

Jawbreaker/Sierra On-Line
Chris Moore
Tampa, FL
186,210

Pac-Man/Atari
Mike Kyburz
Margate, FL
1,017,360

Preppie/Adventure International
Eddie Herrell
Somers, NY
89,360

Protector II/Synapse
Herbert Tiquia
LaMirada, CA
131,000

Shamus/Synapse
Jeff Bear
Broken Arrow, OK
382,505

Tax Dodge/Island Graphics
Diane Ascher-Leyland
1,853,000

APPLE II/II + GAMES

A.E./Broderbund
Clark Alyea
Bloomington, IN
54,000

Aztec/DataMost
Rich Brawley
Weston, MA
1,003,282

Cannonball Blitz/Sierra On-Line
Bill Shean
Hinsdale, IL
1,390,120

Crisis Mountain/Synergistic
Mort Goodman
Orange, CA
121,255

Frogger/Sierra On-Line
Mike Parks
Amery, WI
39,840

Miner 2049er/Micro Fun
Wayne Miller
South Orange, NJ
247,980

Repton/Sirius
Jim Nitchals
San Diego, CA
2,010,005

Snack Attack/DataMost
Chris Wysocki
Brookfield Heights, CT
22,284

Super Taxman 2/H.A.L. Labs
Scott Brown
Riverside, CA
225,490

Wavy Navy/Sirius
Christian Juhring
Carmel, CA
24,820

ATARI VCS/2600 GAMES

Demon Attack/Imagic
Mike Kyburz
Margate, FL
122,810

Donkey Kong/Coleco
Bob Schmidt
Lake Orion, MI
389,100

E.T./Atari
Justin Hales
Elkhorn, NE
2,010,968

Frogger/Parker Bros.
Jerry Trouter
Bethel Township, PA
4,367

Gorf/CBS
Jeff Weiss
Oakvill, CT
48,800

Megamania/Activision
Jerome Paradis
Montreal, Quebec, Canada
655,780

Ms. Pac-Man/Atari
Nick Norhtrop
Barrington, IL
109,420

Pac-Man/Atari
Desirae Olsen

Ocean Port, NJ
932,497

Pitfall/Activision
Bob Schmidt
Lake Orion, MI
113,891

Vanguard/Atari
Richard Reyes
Chicago, IL
78,000

INTELLIVISION GAMES

Astrosmash
Kelric Goodman
Redding, CT
1,942,010

Atlantis/Imagic
Randy Saunders
Gautier, MS
59,490

Beauty and the Beast/Imagic
John Thomas
Tampa, FL
34,100

B-17 Bomber/Mattel
Matthew Ostberg
Juneau, AK
8,490

Donkey Kong/Coleco
Frank Ryan
Meyersdale, PA
277,500

Dragonfire/Imagic
Brian Segel
Homewood, IL
12,300

Lock 'n' Chase/Mattel
Robert B. Bothell
Cowansville, PA
105,400

Night Stalker/Mattel
Frank Ryan
Meyersdale, PA
110,700

Pitfall/Activision
Brian Segel
Homewood, Il
104,981

Tron Deadly Disks/Mattel
Randy Saunders
Gautier, MISS
10,941,400

COLECOVISION GAMES

Carnival/Coleco
Troy LeBlanc
Chipman, New Brunswick, Canada
209,550

Cosmic Avenger/Coleco
Richard Winn
Idaho Falls, ID
110,990

Donkey Kong/Coleco
Tom Parker
Bothell, WA
3,890,900

Donkey Kong Jr./Coleco
Bret DeGarmo
Ashtabula, OH
92,500

LadyBug/Coleco
Scott Preston
Rockford, IL
3,912,360

Mousetrap/Coleco
Randy Speer
Des Moines, IA
10,113,000

Smurf Rescue/Coleco
David Hechman
Butler, PA
9,172,200

Turbo/Coleco
Larry Wolfson
Purchase, NY
206,000

Venture/Coleco
John Beckman
Collinsville, IL
5,209,310

Zaxxon/Coleco
Amil Dillinger
Joplin, MO
3,250,000

RESPONSE TO SURVEY IN LAST ISSUE

It was just a few days after our first issue hit the magazine stands that we started to receive responses to the reader survey in it. Since this was our first issue, we had no idea what to expect. As it turned out, the return rate of the surveys was surprisingly high. When the forms and letters began to come in at the rate of 10 to 20 a day, we decided that the time had come to sit down and compile some statistics.

We found that nine out of ten readers are male, about the norm for video gaming and computer magazines. As with our parent publication, *Creative Computing*, the readers of *Video & Arcade Games* have a high socio-economic profile with an average household income of $35,280.

Most readers are young, enthusiastic game players, spending nearly 16 hours per week on average playing various kinds of games.

Average Number of hours spent per week playing:

Home video games	6.9
Computer games	3.7
Coin-op arcade games	3.3
Electronic games	0.9
Board games	0.8

Under the free-response section, many readers voiced the same suggestions. Some of the most common include:

Jerry Botts, Jr.: "Publish more high scores of arcade and computer games."

—Due to the great number of you with this request, we have expanded our high score section to cover the most popular games on the leading systems. If we receive enough input, we will also cover the Astrocade, Odyssey, Vectrex, Atari 5200, and Vic-20.

Jeff Totty: "Print more color screen shots of gameplay with reviews."

—As you can see if you have been flipping through this issue, the magazine has taken on a much brighter look. We hope you like it.

Steve Davis: "Will you have a questions and answers column? How about letters to the editors?"

—We would love to publish letters to the editor, as well as answers to common questions. Unfortunately, we can't write the letters to ourselves; you have to do that part.

Lori Ciani: "No suggestions. I think it's *great*. It's the best magazine I ever saw."

—What can we say, Lori? Thanks.

READER RESPONSE SURVEY

In an effort to find out exactly who you are and what you want in the way of future articles, we ask that you take the time to complete this survey. Using a pen, fill in all of the blanks and check all of the appropriate boxes. Please print legibly so that we can publish your name and address if you have a high score.

Return this page or a photocopy to:
Video & Arcade Games Survey
39 E. Hanover Ave.
Morris Plains, NJ 07950

Name : ____________________
Street Address : ____________________
City, State, Zip : ____________________
Phone : ____________________

Sex: ( ) Male ( ) Female

Age: ( ) Under 10 ( ) 10-14 ( ) 15-18 ( ) 19-22
( ) 23-29 ( ) 30-39 ( ) 40-49 ( ) 50+

Total Household Income: (leave blank if not sure)
( ) Under $10,000
( ) $10,000-$14,999
( ) $15,000-$19,999
( ) $20,000-$29,999
( ) $30,000-$39,999
( ) $40,000-$49,999
( ) $50,000-$74,999
( ) $75,000+

Of all the different types of games, I most enjoy playing:
( ) Coin-op video arcade games
( ) Coin-op pinball games
( ) Home video games
( ) Computer games
( ) Hand-held electronic games
( ) Classic board games

The home computer systems that I own are:
( ) Apple II/II+/IIe
( ) Atari 400/800/1200
( ) Commodore 64
( ) Timex Sinclair
( ) TI 99/4 or 99/4A
( ) TRS-80 Model I/III
( ) Vic-20
( ) Other ____________

The home video game systems that I own are:
( ) Astrocade
( ) Atari VCS/2600
( ) Atari 5200
( ) ColecoVision
( ) Command Console
( ) Intellivision I/II
( ) Odyssey2
( ) Vectrex
( ) Other ____________

I would like to see *Video & Arcade Games* published:
( ) Monthly
( ) Bi-Monthly
( ) Quarterly
( ) Semi-annually
( ) never again

All high scores should be verified by a photograph of the screen. Since the staff of *V&AG* realizes that taking photos can be difficult and expensive, the inclusion of pictures will remain optional. We trust our readers to report their high-scores honestly. If respondents abuse this privilege, screen photos will become mandatory.

My favorite coin-op arcade games and high scores are:

	Name/Manufacturer	High Score
1.	____________	______
2.	____________	______
3.	____________	______

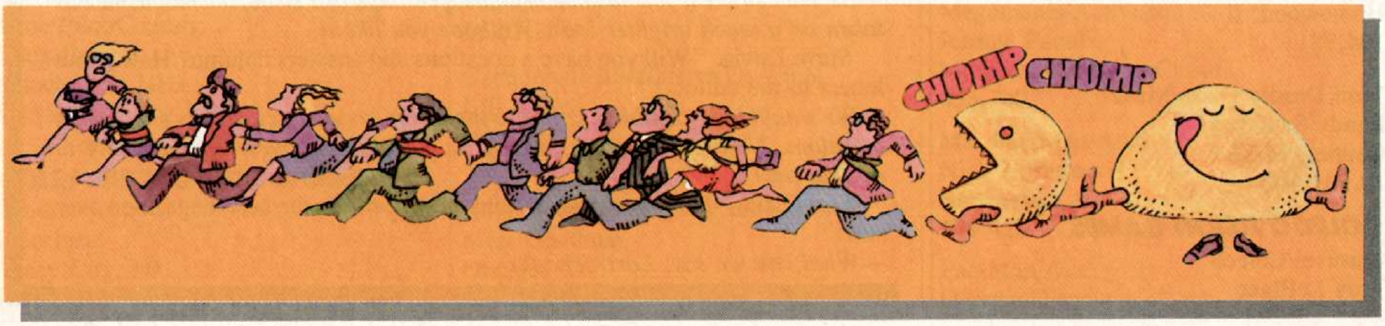
My favorite home computer games and high scores are:
Name of computer system: ____________

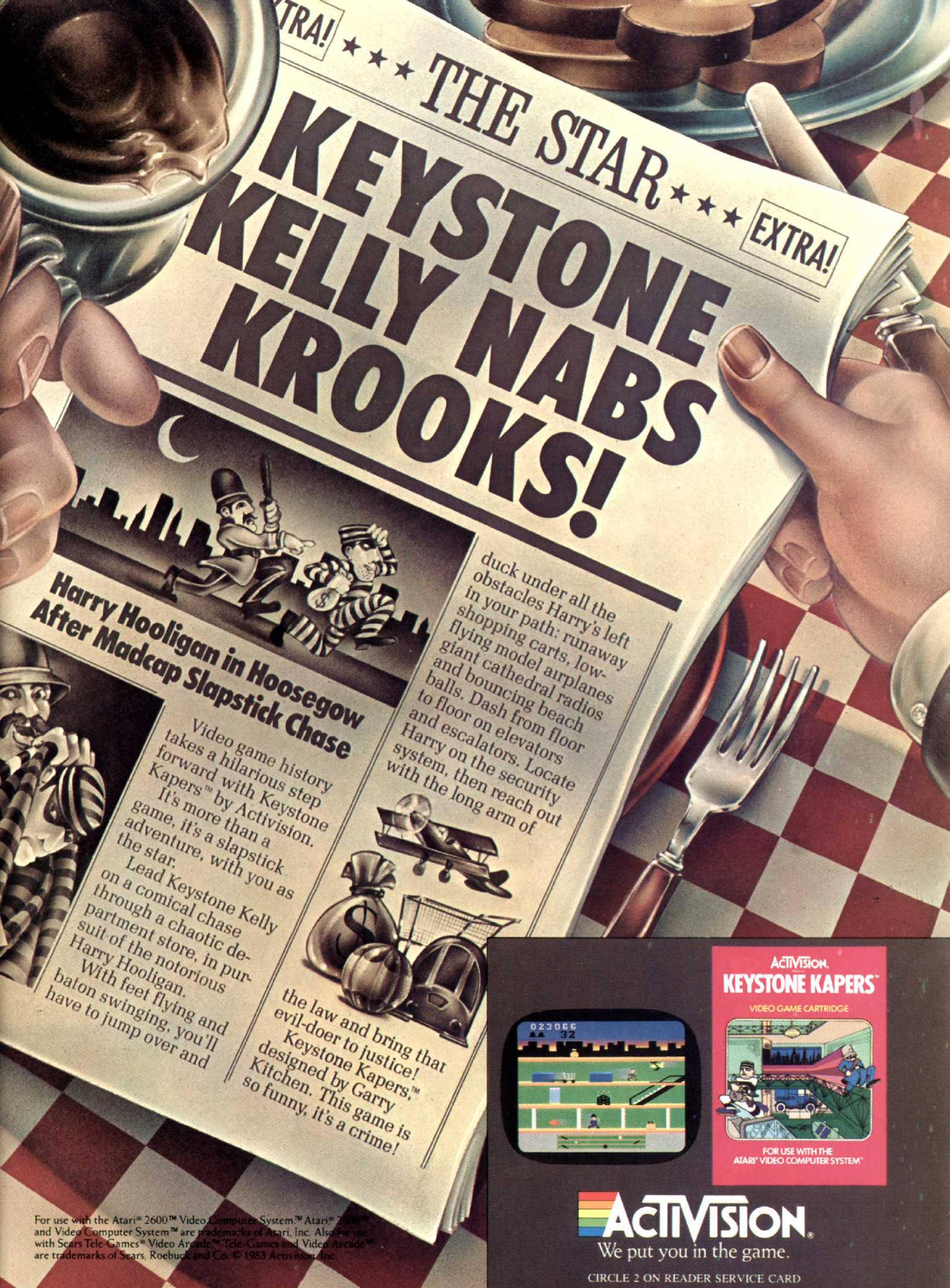
	Name/Manufacturer	High Score
1.	____________	______
2.	____________	______
3.	____________	______

My favorite home video games and high scores are:
Name of video game system: ____________

	Name/Manufacturer	High Score
1.	____________	______
2.	____________	______
3.	____________	______

My suggestions for *Video & Arcade Games* magazine are:
(attach additional sheets if required)





EXTRA! ★★★ THE STAR ★★★ EXTRA!

KEYSTONE KELLY NABS KROOKS!

Harry Hooligan in Hoosegow After Madcap Slapstick Chase

Video game history takes a hilarious step forward with Keystone Kapers™ by Activision. It's more than a game, it's a slapstick adventure, with you as the star.

Lead Keystone Kelly on a comical chase through a chaotic department store, in pursuit of the notorious Harry Hooligan.

With feet flying and baton swinging, you'll have to jump over and duck under all the obstacles Harry's left in your path: runaway shopping carts, low-flying model airplanes giant cathedral radios and bouncing beach balls. Dash from floor to floor on elevators and escalators. Locate Harry on the security system, then reach out with the long arm of the law and bring that evil-doer to justice!

Keystone Kapers,™ designed by Garry Kitchen. This game is so funny, it's a crime!

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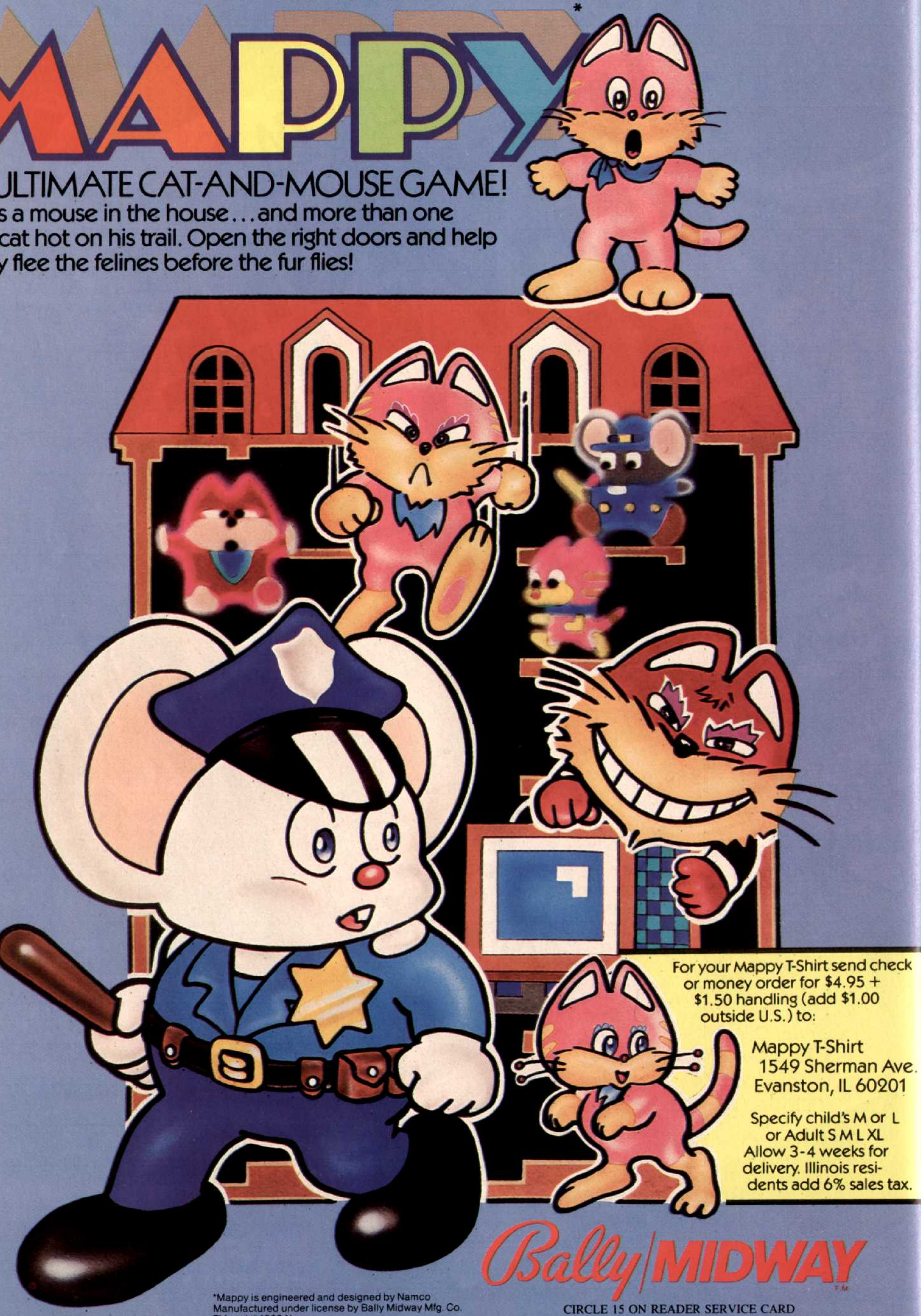

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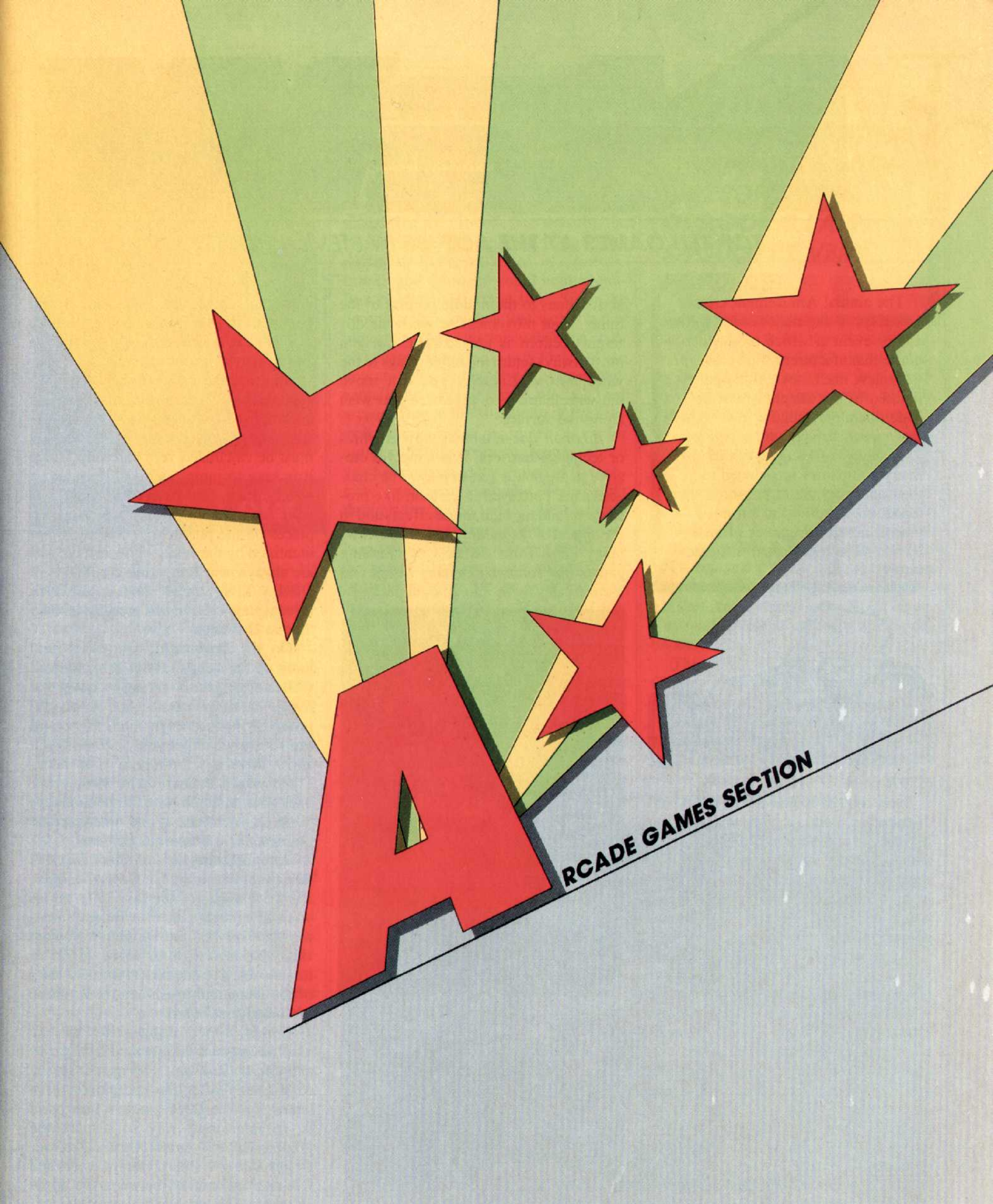


ARCADE GAMES SECTION

NEW

TOP TEN GAMES AT THE AOE '83/BY STEVE ARRANTS

The annual Amusement Operators Expo is the major coin-op industry event at which most video game manufacturers showcase their new machines. Although marked by the skepticism of arcade operators, quite a few exciting games surfaced at the 1983 AOE held in Chicago. While many companies introduced more than one machine at the show, this report covers only the ten most promising arcade games offered by the more established manufacturers.

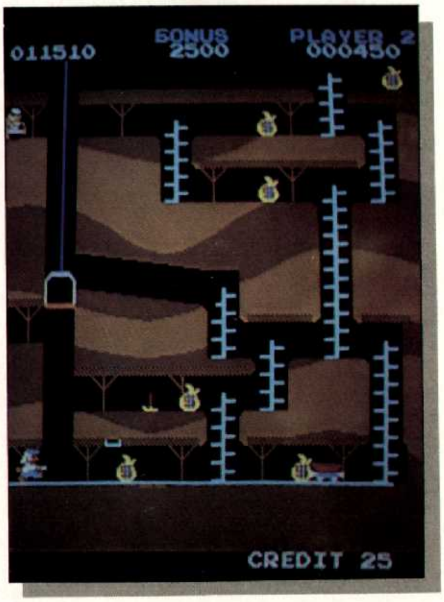
(STERN)

Even though it had already received distribution months before the show, no other game at the Stern booth drew more attention than Bagman. Licensed from a French corporation, *Bagman* is a lighthearted cops and robber chase game which takes place in a series of underground mine shafts.

As an escaped criminal, you maneuver through tunnels trying to retrieve money bags which you must place in the wheelbarrow at the surface. By use of a four-way joystick, you move horizontally and vertically. The single action button is used to perform various tasks at different stages of the game. A group of armed guards chases you about the mine shafts, but they are stunned temporarily when you hit them with a pickaxe or moneybag.

The extensive mine complex stretches along three complete screens. You begin each game in the leftmost section, but by exiting the screen through the horizontal tunnels at the right, you shift scenes to the middle portion of the mine. Your movement between the different sections is unrestricted, but you must always return the money bags to the wheelbarrow. Luckily, you can move the wheelbarrow to anywhere you wish along the surface.

Bagman doesn't break any graphics or technical barriers, it is simply a creative game that is fun to play. The characters are portrayed in cartoon-like proportions and the cute sound effects add to the appeal of the game. *Bagman* borrows many ideas from the slew of climbing games that followed *Donkey Kong*, and incorporates them into a novel package.



Congo Bongo

(SEGA)

With success stories such as *Zaxxon* and *Frogger* in its past, operators were counting on Sega to introduce a new game to capture the imagination, and quarters, of the game-playing public. *Congo Bongo* proved to be just what the doctor (Livingston) ordered.

You are the great Hunter, trying to capture Bongo the gorilla. Movement is accomplished with an eight-position joystick and a jump button. All movement must be calculated very carefully, since it is easy to jump over a cliff or into a watery grave. The object is to maneuver your safari explorer to predesignated places on the playfield. These spots are identified by the small white arrows, and are always near Bongo the gorilla. As in *Donkey Kong*, there are four different screens, and each screen presents its own unique challenge.

On the first board, you climb and jump up the steep cliffs of Primate Peak while dodging the bouncing coconuts that *Bongo* is throwing at you. A playful group of monkeys that roam this board can severely hamper your success if you allow them to climb onto your back. Three jumps knocks them off of your back, but be quick. If all three monkeys jump on your back at one time, prepare yourself for a humorous demise.

After reaching the summit of the cliff, Bongo retreats to Snake Lake. Conquering the dangers of the lake only brings your adventurer closer to Bongo's resting place on the fourth screen. If you are skilled enough to surprise the gorilla as he snoozes, you advance to the next level of the game and begin again on a more advanced first board.

Congo Bongo utilizes the 3D-like graphics system popularized by *Zaxxon* and *Super Zaxxon*. The game screen scrolls only after the completion of a board, but the three-quarters viewpoint is an interesting way to display the graphics of this game. Unlike *Zaxxon*, *Congo Bongo* is full of vibrant colors and has distinct contrast between the game elements. The zany animation of the animals, combined with jungle sound effects, create the complete safari motif that is sure to entice both *Donkey Kong* players, as well as those who enjoy *Jungle Hunt*.

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DRAGON'S LAIR

(CINEMATRONICS)

Although they filed for Chapter XI bankruptcy back in November of 1982, Cinematronics was at the show in full strength. Ironically, *Dragon's Lair*, the most innovative game at the AOE, comes from this financially troubled company. The folks at Cinematronics are promoting *Dragon's Lair* as a game that is "light years ahead of its time." Utilizing the sophisticated technology of laser disc animation, *Dragon's Lair* is a major step forward for the industry.

Dragon's Lair is the first laser disc video game to be implemented in the coin-op arcade halls. The cartoon graphics and storyline were designed by Starcom, but the machine is manufactured and marketed by Cinematronics.

Using only a two-direction joystick and an action button, you control the hero, Dirk the Daring. Your quest: rescue the princess who is held somewhere in the dark castle. Essentially, this game is one long cartoon with options controlled by the player. Should Dirk battle the Black Widow Spider or run away? Is it safe to pull the gold chain hanging from the ceiling? Which corridor leads to the princess—and which leads to a nasty death?

At the beginning of every game, you automatically enter the first room and the door slams shut behind you. Suddenly you are on a small ledge above a pit of fire. You must swing from rope to rope to cross over the flames as they lick at your feet. Each time that you use a control or the scene changes, the screen goes blank for a second as the computer repositions the scanner on the video disc. Until the technology of the disc field advances, players must contend with these hiatuses in the gameplay.

The cartoon graphics are well animated. So well that many viewers speculated that the artwork was done by the masters of animation, Walt Disney Productions. Representatives of Cinematronics and Starcom would neither confirm or deny this conjecture. Since the demonstration models that were on display at the show did not contain the complete game, there is no way to determine how complex and involved the game will actually be when it finally reaches your arcade. Due to the simplicity of the controls, there is not too much room for options and diversity of actions. Once you have mastered the timing of the controls, you can virtually walk right through the demo game. We can only hope that Cinematronics releases a greatly expanded version of *Dragon's Lair* to the public. The company also plans to continue support for the laser disc system by periodically introducing new interchangeable packages to be used with the master console.

The drawing power of *Dragon's Lair* lies mainly in the fact that it is the first laser disc video game. The format and execution of this game is such a radical departure from the usual that it may not be readily accepted by the arcade owners and operators. I am sure, however, that the novelty appeal of the game is more than enough to make it successful with the players. With its dank caverns, exciting encounters and awesome foes, *Dragon's Lair* should be very popular with the Dungeons and Dragons sub-culture.

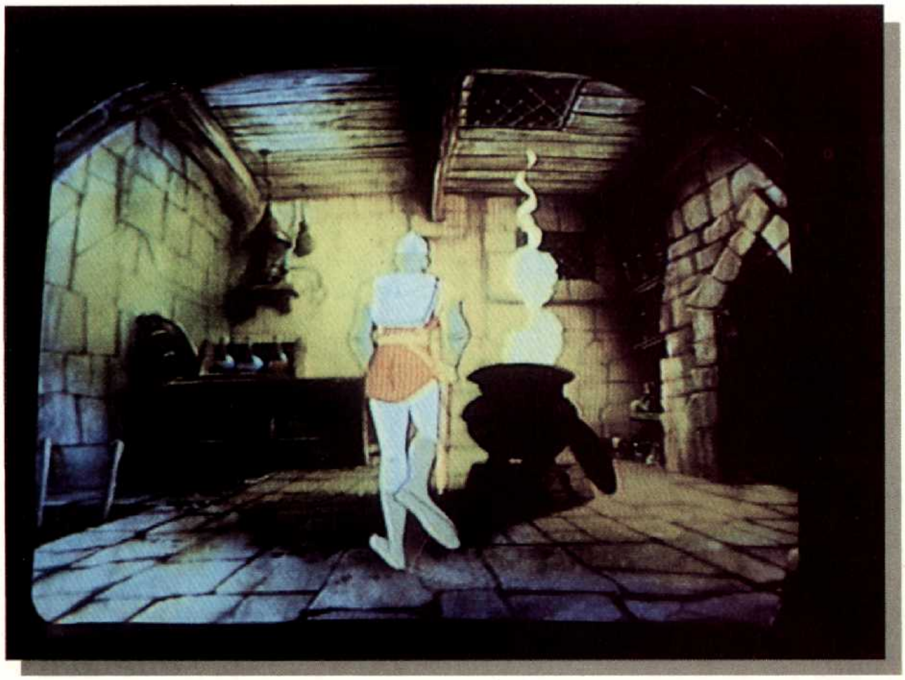
WITH ITS DANK CAVERNS, EXCITING ENCOUNTERS AND AWESOME FOES, DRAGON'S LAIR SHOULD BE VERY POPULAR.

FOOD FIGHT

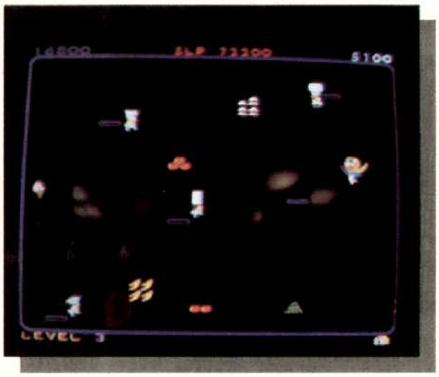
(ATARI)

Atari, both the father and giant of the industry, had the most impressive booth at the AOE. It was the size and grandeur of the booth that made it impressive, not necessarily the games displayed within. Luckily the newest release, *Food Fight*, was not overshadowed by the lavish booth.

The object of *Food Fight* is to race Charley Chuck across the screen to a melting ice cream cone. Easy? No way! Our hero must dodge tomatoes, pies, and watermelons that are thrown at him by a band of four outraged chefs. If you do not avoid the flying objects, you become covered with food and lose a life.



Your only defense is a rugged offense. By throwing food at the chefs faster than they can fling it at you, your opponents can be temporarily eliminated. If you pass over a pile of foodstuffs, you arm yourself with that type of ammunition. Now when threatened by a chef, you can lob food at him by pointing the joystick in his direction and tapping the throw button. If you hit a chef, he melts away, but later reappears.



The chefs enter the screen through little slots in the playfield floor. If a character passes over an open hole, he falls to his death. As you weave your way to the elusive ice cream cone, you must carefully avoid the open slots and the flying food. Since chefs can be coaxed into hitting each other and falling into holes, *Food Fight* can be played as a strategic game as well as a hand-eye exercise.

To accommodate the more sophisticated players, *Food Fight* allows you to select the level that you wish to start the game on. This is similar to how you begin a game of *Tempest*. The higher the level you choose, the more difficult the game and the greater number of lives you begin with.

One of the nicest things about *Food Fight* are the stunning graphics. Dressed in a blue shirt and white pants, Charley Chuck grabs pieces of food that are depicted in great detail and throws them at the grinning chefs. There is a large variety of different foods, each with its own characteristics. For example: watermelon supplies can never be exhausted. The way that the bananas spin through the air is especially cute—they look just like little yellow boomerangs. Another interesting feature of *Food Fight* is the Instant Replay. If you have a close shave and almost get hit by some food, your actions for that entire level will replay for you in fast motion. This is a novel idea and also gives the player a chance to see what he did right.

Atari will probably do very well with *Food Fight*. The brilliant colors, whimsical music and distinctive cabinet design certainly attract the player's attention to this game. The humorous yet challenging gameplay is sure to keep that attention.

GYRUSS

(CENTURI)

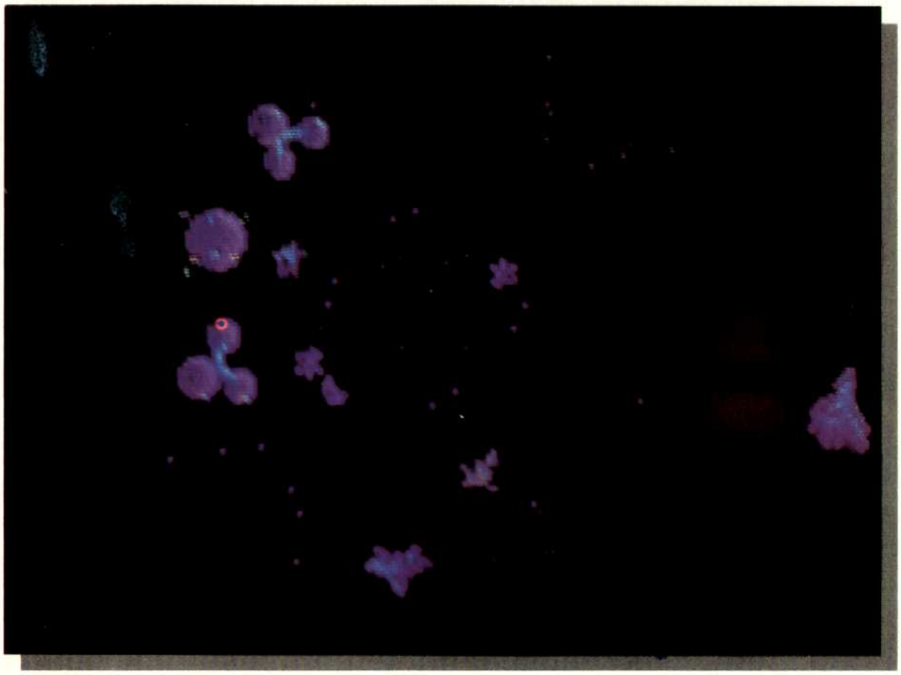
The most memorable game ever manufactured by Centuri is unquestionably *Phoenix*. While it is difficult to produce a new game to surpass a very successful old one, Centuri is definitely trying hard. While I don't think that *Gyruss* will ever reach the popularity level enjoyed by *Phoenix*, it certainly won't trail too far behind.

Starting on the periphery of our Solar System, you must fight your way back to Earth. Your ship is restricted to an orbital path that is almost tangent to the four edges of the screen. A two-directional joystick moves your ship, the *Gyruss*, clockwise and counterclockwise along an orbital path. You can blast away at the alien ships by tapping the fire button on the right of the control panel.

To reach earth, you must trek through space by destroying waves of aliens. The invaders materialize in the vortex at the center of the screen. When a group of aliens has amassed, they rush the player by zooming up toward the rim and hurling multi-shaped bombs. After this aggressive action, they retreat to the center of the screen where they wait as additional waves of aliens attack. In addition to the indestructible bombs, huge meteroids come screaming out of the vortex to keep you on your toes.

Every time that you eliminate a complete attack wave of creatures, it counts as one warp toward your planet of destination. The first planet, Neptune, is only two warps away. Each successive planet requires more warps to reach than the one preceding it. After every four stages, you enter a chance stage in which you are invulnerable to the aliens. Two strings of five creatures each enter the screen and tempt you to shoot them all. The object of these chance stages is to pick up bonus points by destroying the aliens as they pirouette, twist and wriggle through space. Your main mission is to succeed in finally reaching Earth.

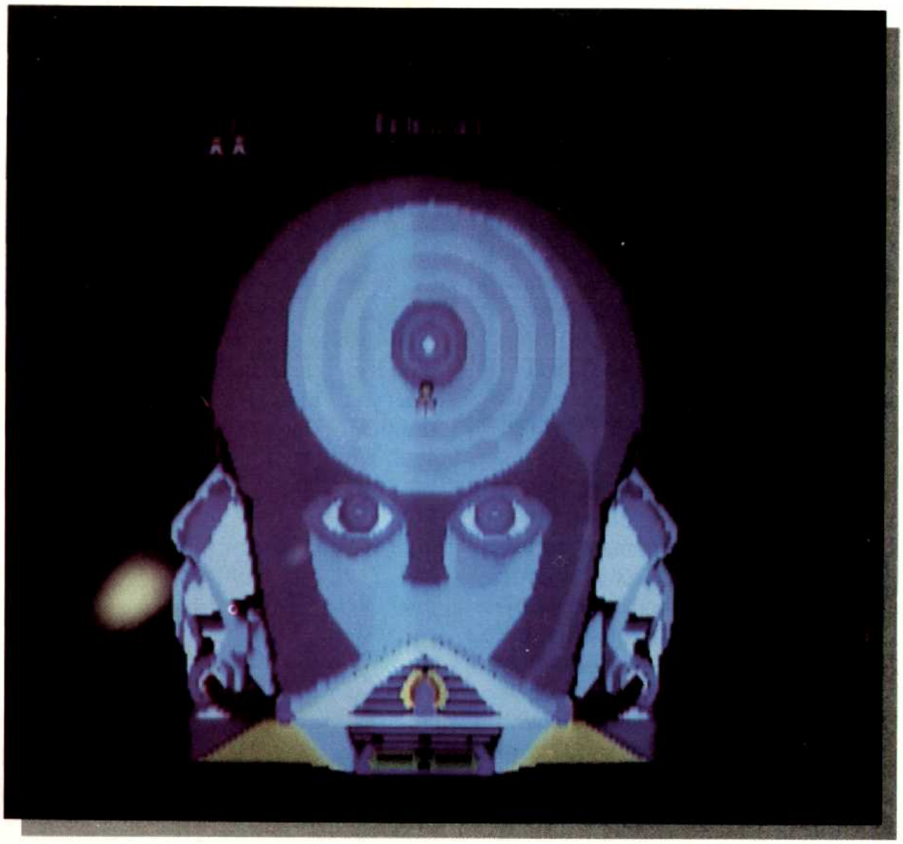
Gyruss is a fast-paced game that has a subtle hint of Tempest in its design. The interesting sound effects and dazzling dances of the enemy ships is enough to mesmerize you if you're not careful. Although it is not another Phoenix, Gyruss is sure to be one of the most popular space-games of the coming year.



JOURNEY ESCAPE

(BALLY/MIDWAY)

Well, after all of the speculation as to which home video game was going to be



the first to be adapted for the coin-op arcade, *Journey*, from Bally/Midway, answers that question once and for all. The Atari VCS home game from Data Age, *Journey Escape*, was the inspiration for this coin-op.

Journey is the name of America's current #1 rock group whose exploits are supposedly depicted in the game. Released in conjunction with their U.S. Frontier tour, the object of the *Journey* arcade game is to help the five band members collect their instruments so that they can perform together at a concert.

The game *Journey* is based on the same principal as *Tron*. By designing the cabinet and game to tie-in visually with the band's newest LP release, Frontiers, Bally hopes to draw the fans of the rock group to the machine. While this is good business practice, it doesn't justify the exploitation of the band's popularity to produce a mediocre package of games. As is the case with *Tron, Journey* is composed of several different hackneyed game concepts.

The game begins with an overhead view of a scarab ship, the group's symbol, and five planets, each with a musical instrument located in its center. By using the joystick to guide the ship toward a planet, you choose which subgame you want to enter. To acquire an instrument, you must accomplish a specific task. For example, to help Steve Smith retrieve his drum set, you must first change the color of a group of floating discs by bouncing on them. After that, you climb aboard the drums and must blast through flocks of flying debris before you can regroup with the other band members. The other musicians all have different obstacles that they must overcome before they can perform at the concert, to the delight of teeny-boppers everywhere.

While it is probably obvious at this point that I do not really enjoy playing *Journey*, you may be asking yourself why I have included it in my list of the top ten games.

The answer is simple: the popularity of the group is most likely strong enough to carry the game, and *Tron* has already proved that four O.K. games do a winner make. What this means is that *Journey* has a very good chance of becoming a favorite among arcade goers despite its shortcomings. Don't let me sell *Journey* short though, it does have some redeeming qualities, most notably, the superb graphics. All of the five game stages have vividly colored animation, but the best thing is that the faces of the band members look as if they are black and white photographs. This is one of the biggest steps toward making game graphics appear more true to life.

MARIO BROS.™

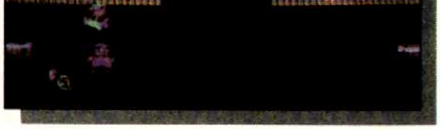
(NINTENDO)

Without a doubt, *Mario Bros.* was my favorite game at the AOE'83. Borrowing the jumpman character from *Donkey Kong*, the designers at Nintendo have placed Mario and his brother Luigi in a new game that is sure to climb the popularity charts.

In this game, Mario the Plumber must contend with pests along a waterfront. The first level starts out with Shellcreepers (turtles). They emerge from the mouths of the two green pipes at the top of the screen. The idea behind *Mario Bros.* is that you are supposed to clear the boards (called faces) that are infested with creeping, crawling pests. To do this, you must first knock them onto their backs and then kick them into the water below.

To flip a creature onto its back, you must position yourself on the platform beneath it. When the pest is directly above you, press the jump button to punch the ground that it is walking on. Unless the creature happens to be a second level sidestepper, this renders it temporarily defenseless. At this point you may jump up the platform that the pest is on and kick it into the water by touching it with your man. If left alone for a short period of time, the creature rights itself and becomes a much more ferocious adversary. When you kill a creature, a bonus coin is introduced into the playfield. This spinning coin makes its way down to the bottom of the screen and disappears forever if nobody touches it.

When played by two people at the same time, *Mario Bros.* takes on a whole new dimension. Similar to the cooperation relationship of the *Joust* video



game, both players must formulate a code of ethics if they hope to do well. Working as a team, two good players can make a game of *Mario Bros.* a joy to behold. Then again, two bumbling players make for hilarious action on the screen.

One new concept introduced in *Mario Bros.* is the slippery floors. When you tilt your two-direction joystick in any one direction for more than a moment, you begin to gain momentum. To stop moving, you must reverse the direction of the joystick. Instead of coming to a complete halt, you grind your heels into the ground and slide for a little while. It is this uncertainty of movement that causes players to be a bit more careful.

The graphics of *Mario Bros.* are bright and colorful. The hi-res floors and waterpipes are shaded to give the illusion of three dimensions, and each character is animated with a great attention to detail. The three different creatures encountered in *Mario Bros.* are tricky enough to keep even the best of players on their toes.

When played by a single person, *Mario Bros.* is a good game. But when two players go head-to-head, it becomes an excellent game. I hope that Nintendo plans to release this game soon. I'm saving my quarters in anticipation. *Mario Bros.* is a strong contender for game of the year.

MAD PLANETS

Gottlieb is a relative newcomer to the very competitive video game market. Its first game, *Reactor,* was quietly introduced at last year's show. In striking contrast, *Mad Planets* received more than its fair share of attention at the 1983 AOE. Coming on the heels of the immensely popular *Q*Bert, Mad Planets* is no disappointment.

ONCE A PLANET BECOMES A QUALIFIED TARGET IT IS DEADLY TO THE TOUCH.

As the pilot of a small ship, you have become lost in space and now find yourself in a sector where planets are born. The object of *Mad Planets* is to destroy approaching planets and rescue helpless astronauts that are marooned in space. Your highly maneuverable space fighter is controlled via a spinning knob that rotates the ship, and a joystick with a firing button to move about the screen and blast targets. These controls are extremely responsive which is perfect for the incredibly accelerated gameplay found in *Mad Planets.*

At the beginning of every wave, the embryonic planets appear as small eggs in the center of the screen. You cannot destroy a planet until it starts to grow in size. Once a planet becomes a qualified target, it is deadly to the touch and continues to grow until it sprouts moons or you blow it away. If a planet is allowed to reach full size, it is indestructible until you vaporize all of its orbiting moons. As long as it still has at least one moon, a planet may hurl lethal clones of that moon at your ship. Destroying the moons disables the planet's force field. When you have shot away all of the moons, the planet turns glowing red in color and increases its velocity. Unless you quickly destroy it, the planet bounces wildly off the edges of the screen, creating a very dangerous situation for the player.

If only one planet entered the playfield at a time, there would be no challenge to this game, but that is not the case. In addition to having multiple planets onscreen, there are also fierce comets that spiral through space that you must avoid. You can collect bonus points by touching the floating astronauts, but all too often this diverts your attention and causes you to lose a life.

Aside from the ferocious pace of the game, the beautiful graphics are what I really love about *Mad Planets.* When a planet reaches maturity, you can see the different continents etched onto the surface as it revolves around the axis. The orbiting moons actually leave small shadows on the planet itself! Due to the black design of the cabinet and the dark interstellar playfield, it is easy to become totally involved in the space world portrayed on the screen.

Mad Planets is not the kind of game that you want to play when you are in the mood to relax. Its action is so furious that your knuckles turn white as you frantically squeeze the trigger on the joystick while trying to avoid contact with the objects in the playfield. I would rank *Mad Planets* right up there with other high-tension favorites such as *Robotron* and *Tempest.* Gottlieb's *Mad Planets* guarantees sweaty palms and total exhaustion. Like Stern's *Bagman,* this game borrows from a specific genre of video games and achieves success.

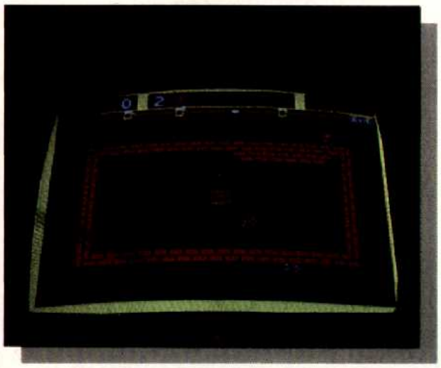
ZOO KEEPER

(TAITO)

Taito, the company that gave the arcade world *Space Invaders,* introduced *Zoo Keeper* at the AOE. Both of its latest releases, *Front Line* and *Jungle Hunt,* have proven popular, and operators looked to Taito to come up with another winner.

In this game, you assume the guise of a zoo keeper whose job it is to keep all of the animals in their cage. The hungry animals are not content to remain locked up, and they chew at the inside of the brick wall that surrounds them in an attempt to break out. Every time that you make a pass along the outer perimeter of the wall, you add bricks and repair the sections that have been bitten into.

If you touch an animal, you lose a life. To avoid those creatures that escape the cage and crawl along the edge of the wall, you can press the jump button to leap over them. In other situations, you can use a net to return the animals to their cage. You can tell when the net and other prizes are going to appear by watching the fuse that burns down at the top of the screen. When the burning end of the fuse reaches a clover, watermelon, root beer or other goodie, that prize appears randomly on the perimeter of the cage. When the timer runs out, points are awarded for each animal that remains



locked up in the cage. You then advance to the next screen.

Subsequent levels included cages that are non-existent at first and must be built from scratch, a screen with sliding platforms that you must climb to reach your girlfriend, and an escalator board in which you must avoid cages and animals. The action becomes quicker and more complex with each succeeding level. Survival becomes much more difficult. These four different types of screens present new and interesting challenges as you become a better player and attain enough skill to reach them.

The sound effects of the bricks being replaced as you race around the cage imitates the sound that a machine gun makes. This is in keeping with the quick pace that operators find desirable for shortened games and higher profits. But that is not to say that *Zoo Keeper* can't be played and enjoyed for longer sessions—it simply takes a little more time and effort to develop the necessary skills.

JOUST™

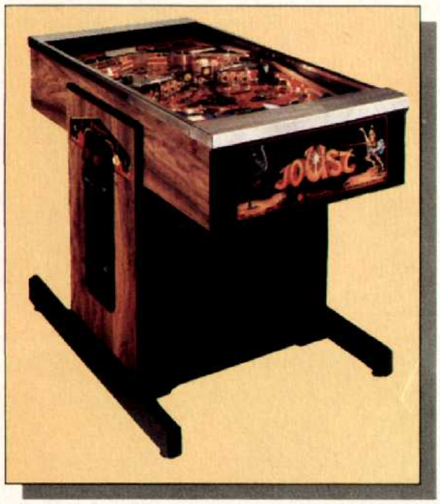
(WILLIAMS)

Williams introduced two video games at the AOE, *Bubbles* and a revised *Sinistar*, but its most impressive offering was the *Joust* pinball game. When thinking of arcade games today, most people typically envision a video game, not a pinball machine. Nevertheless, pinball was the most popular form of coin-op entertainment before video took over during recent years. With the introduction of this *Joust* pin game, pinball may be able to grab back some of the limelight.

The most impressive thing about the *Joust* pinball game is that the machine itself looks and plays like no other game before it. The glass above the playfield is horizontal, making it a convenient place to prop up a drink. This alone should attract the attention of the owners of bars and night clubs that feature game rooms. *Joust* is the first two-player pinball game in which both players are engaged in the competition simultaneously. The players approach the machine at opposite ends, and face each other for head-to-head action. This means that it can gobble down quarters twice as fast as any other pinball machine.

The *Joust* playfield is unique. The table is divided into two symmetrically identical fields which have different grades that slope down to the flipper set of each player. There are two separate openings from which the players are automatically fed new balls. When the game begins, the machine introduces two balls onto the playfield; one to each player. The object of the game is to rack up points by knocking down targets, hitting discs and rotating spinners with your ball. The novelty is that your table is connected to your opponent's table via two spinners and two special tunnels. If you are not careful, you may end up shooting your ball over to the other side—forcing your opponent to handle two balls at the same time! If he drains your ball, it is deducted from his reserve, not yours. You are only penalized for balls that you allow to sneak past your own flippers.

As far as mechanical innovations are concerned, *Joust* has none. The playfield is populated with thumper bumpers, drop targets, catch holes, spinners, rollover switches, bull's eyes and two sets of flippers—all fairly standard equipment in most pinball games today. The thing that sets *Joust* apart from any other pinball game is the simultaneous two-player action. When two friends engage in a game of *Joust*, they are not only battling the machine itself, but also each other.

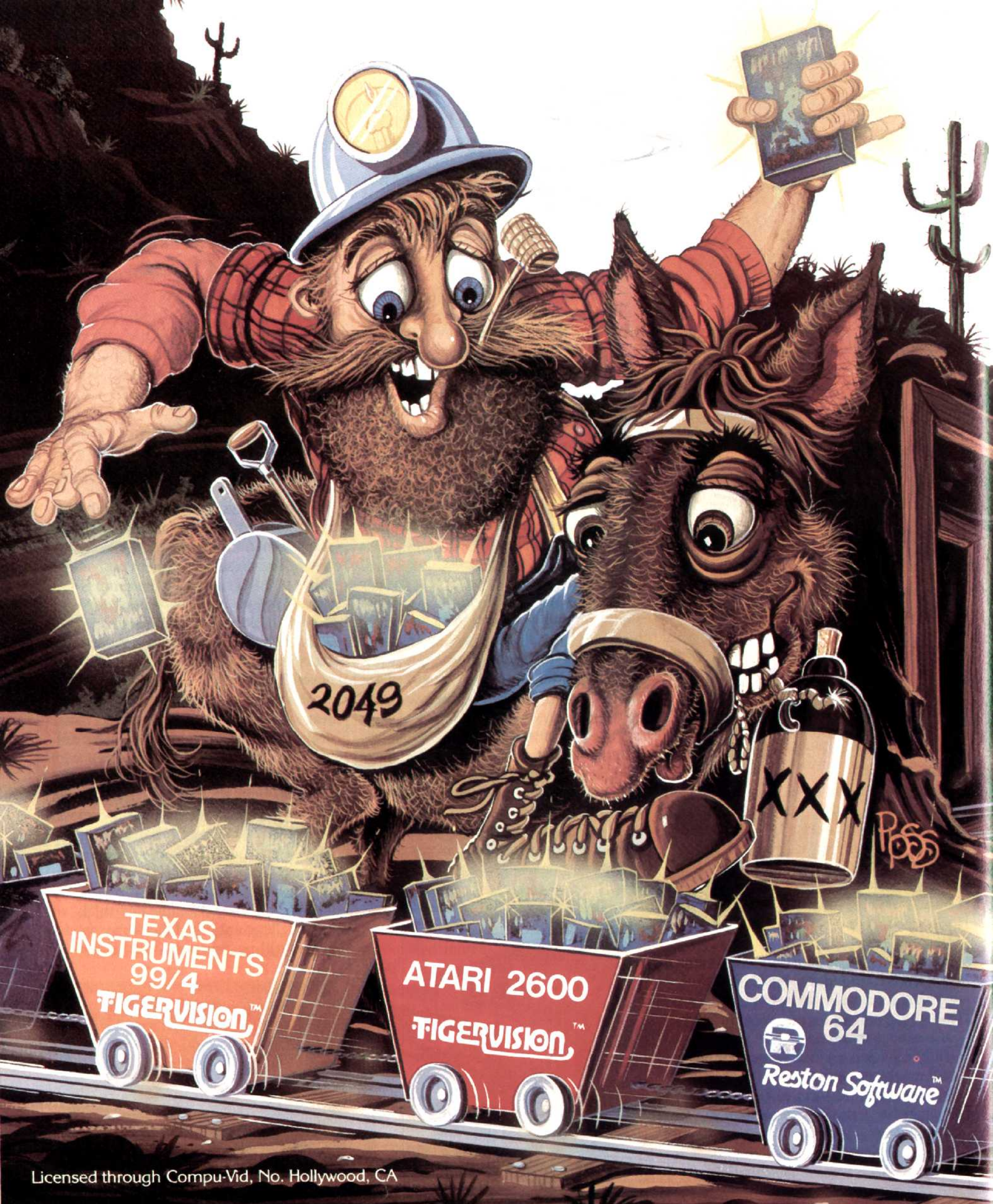


As if the two-player option wasn't enough, Williams has also incorporated some other nice features to make *Joust* ever more exciting. If one person plays *Joust*, he controls both sets of flippers with his one pair of buttons on his side of the cabinet. Not only must he judge where the desirable targets are on the other side (he can't see them from where he stands), he must also keep an eye on the playfield directly in front of him. This taxes the powers of observation and attention almost to the point of being absurd.

THE UNLIMITED BALL PLAY IS THE MOST THRILLING THIRTY SECONDS IN PINBALL HISTORY.

Probably the most exciting part of *Joust* comes after both players have drained their supply of balls. What follows is a thirty second free for all with four balls constantly in play. At this point the balls fly around so quickly that any attempt at strategic play is useless. The object is to juggle the balls to the best of your advantage to gain as many bonus points as possible. If you let a ball slip by your flippers, it is immediately thrown right back into the thick of things. The unlimited ball play is the most thrilling thirty seconds in pinball history.

Baby Pac-Man proved to the coin-op industry that variations on the standard pinball theme can be profitable. *Joust* is going to show the public just how successful and popular a pinball game can be in this age of computer monitors and joysticks. Without a doubt, *Joust* pinball is definitely going to claim a large portion of my paycheck when it makes its appearance in the local arcade. If pinball is to remain a viable source of arcade income, it owes its future to the continued introduction of original games such as *Joust*. Thank you, Williams! Pinball players are in your debt. ■



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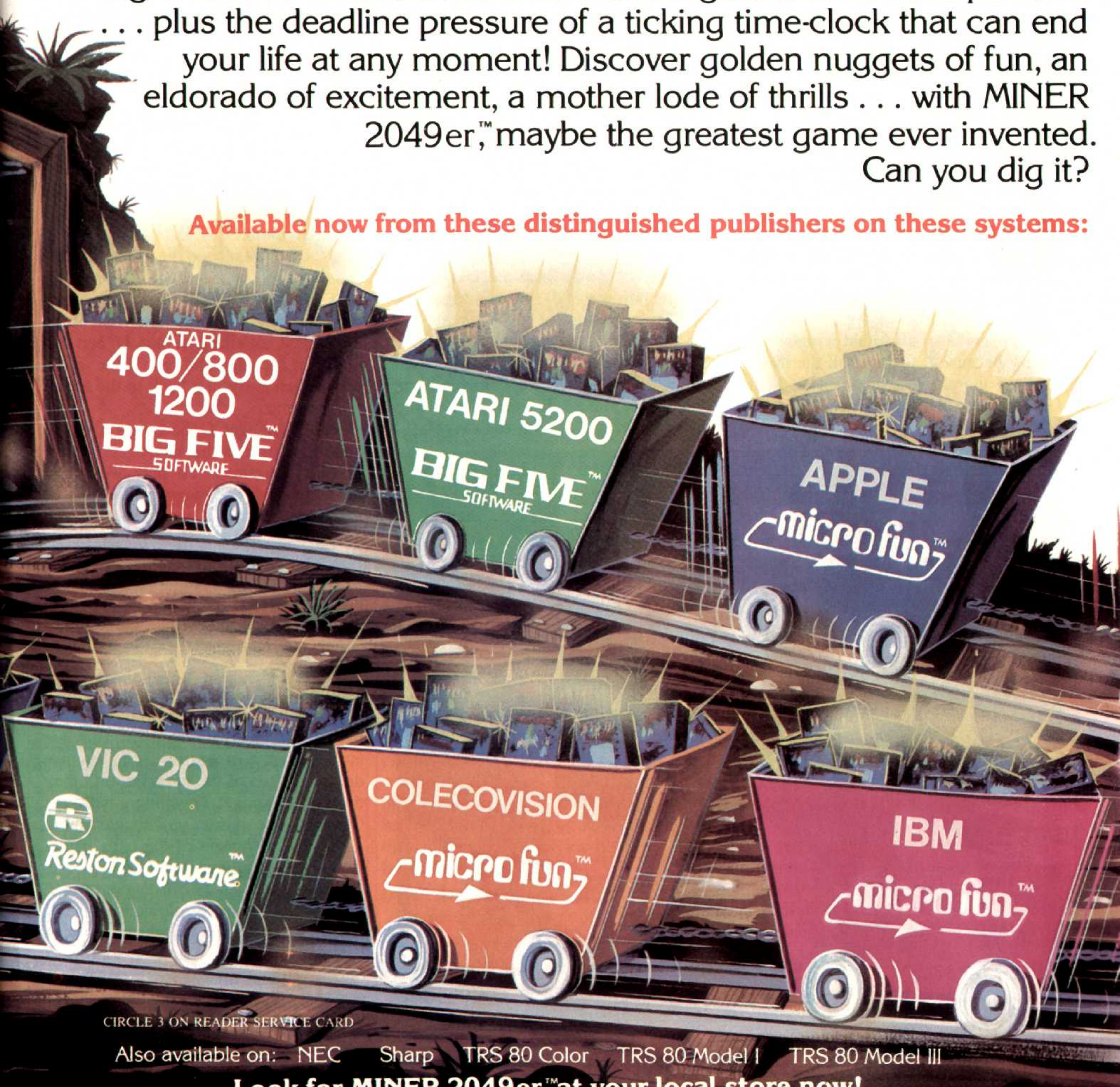
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Q*bert

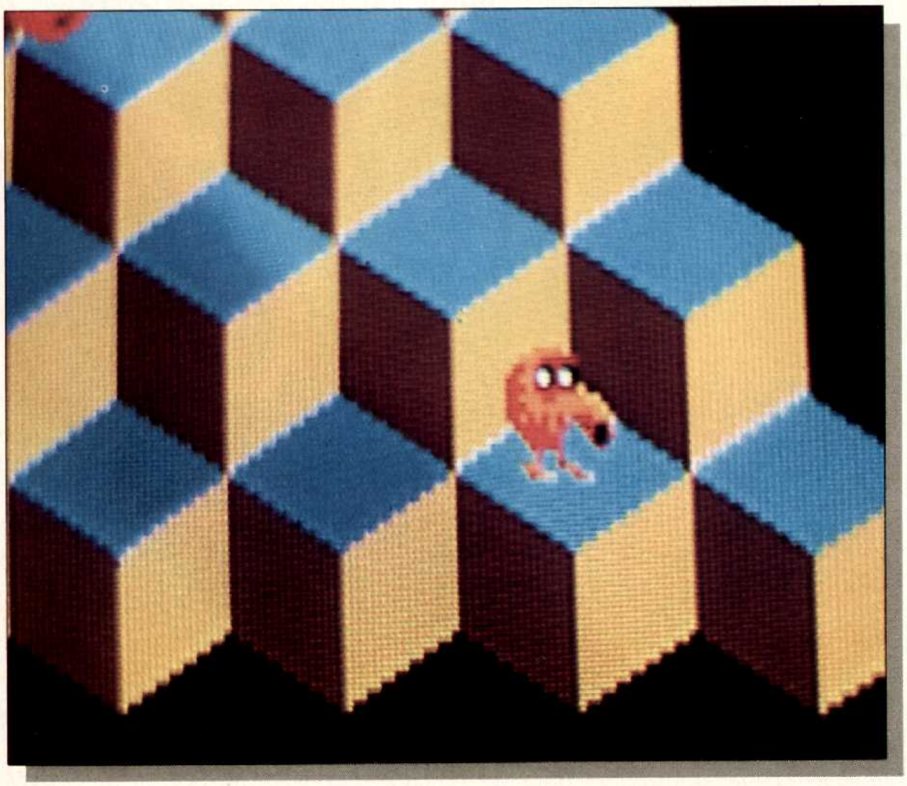
A PLAYER'S GUIDE/BY WILLIAM BROHAUGH

For years, Gottlieb Amusement Games was the king of pinball. The company so dominated the pinball industry, that pinball dominated the company. When Gottlieb's competitors began producing video games, Gottlieb was very slow to follow along. The company didn't produce its first video game until 1980, and that was a lackluster tank game called *No Man's Land*. *New York! New York!* wasn't much better. *Reactor*, the first Gottlieb game to be designed by the company itself rather than being licensed from someone else, *was* better. But it never caught on.

Gottlieb's fourth video game is different. *Q*bert* is an all-round winner, primarily because it features all the inventiveness and player appeal that made the Gottlieb pinball machines so challenging and popular.

Overall, *Q*bert* is one of the best video game packages to come along in recent years. The object of the game is unique and interesting. Colors are vibrant and arresting, as are the sounds—a variety of grumblings, mumblings, grunts, screams, squishes and bops. Besides, the little orange Q*bert is even cuter than Pac-Man.

Q*bert is a long-nosed character who roams the 28 squares that form the face of a three-dimensional pyramid. Each time he jumps from one square to the next, the square he lands on changes color. The purpose of the game is to maneuver Q*bert so that he jumps on each of the 28 squares at least once; when all those squares have been changed to the target color, you have completed the rack. As in almost all video games, play difficulty increases with each rack.



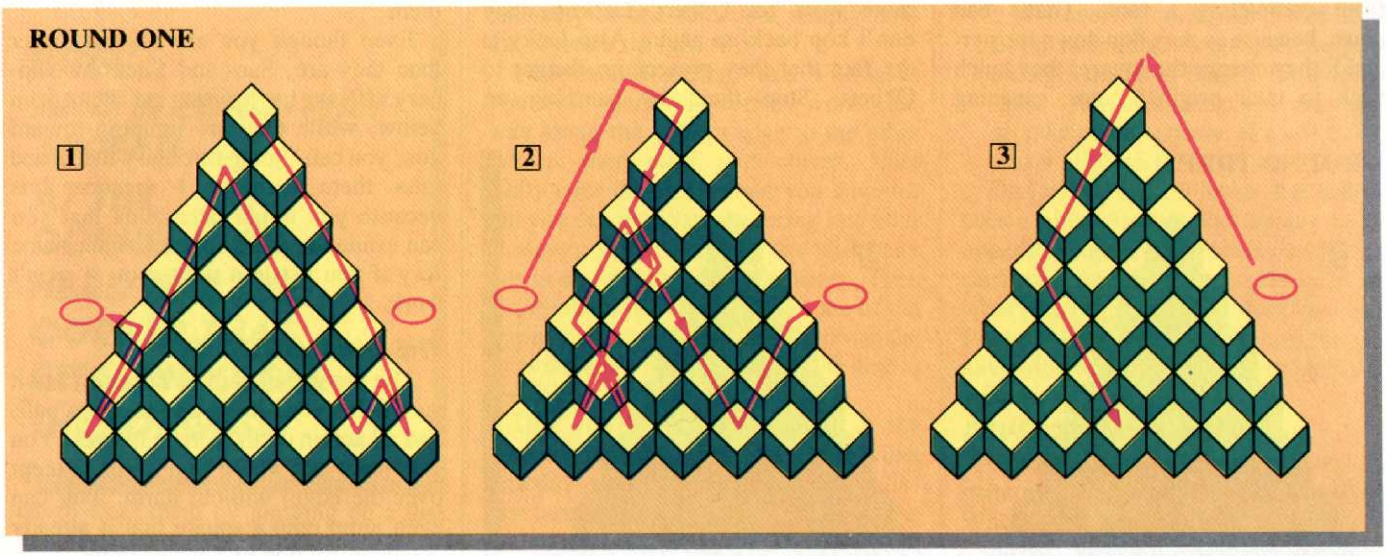
Conspiring to prevent Q*bert from completing his task are villainous creatures that squash our hero when they meet up with him. Meanwhile, a constant barrage of red balls drops from the sky and bounces around the pyramid, threatening to give Q*bert a fatal bop on the head. And just to keep things hopping (literally), two of Q*bert's enemies show up later in the game and undo his work by changing squares back to their original colors.

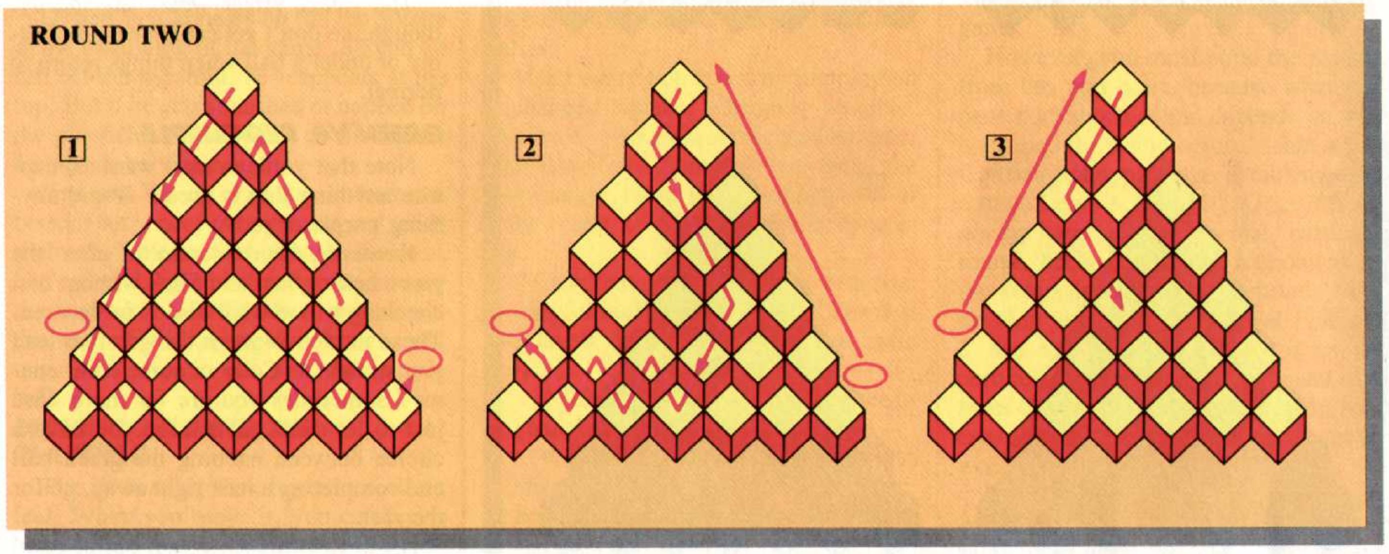
Q*bert must stay on the pyramid. If he should hop over the edge, he plummets to a very loud death—*with one exception*: Notice the spinning disks that hover in space next to the pyramid. Q*bert can hop over the edge and onto those disks, which then carry him back to the top of the pyramid.

You maneuver Q*bert with a single control: a joystick that moves bert in one of four directions. To play well, you must get used to the joystick. Unlike the *Pac-Man* joystick, which moves you north, west, south and east, the *Q*bert* joystick moves you northeast, northwest, southeast and southwest. More on how to move Q*bert across the playfield grid in a moment. First, some notes about the bad guys you're trying to avoid.

THE RED BALLS

Dropping randomly from the sky and onto the playfield are red balls. They are at the mercy of gravity, and bounce down the face of the pyramid until they drop off the edge. Touching a ball kills Q*bert. The most predictable thing about the movement of the balls is that they rarely continue to bounce in one direction for long. For instance, instead of bouncing southwest down the face of the pyramid for six straight bounces, a ball will more likely bounce southwest once, southeast twice, southwest twice, southeast once. And the balls almost never bounce straight down along the


ROUND ONE


ROUND TWO

edge of the pyramid and onto the corner squares. That means that they most often bounce around the center of the playfield, so you are usually safe from them in or near the lower corners.

THE PURPLE BALL/COILY

The purple ball is larger than the red balls, but is no more dangerous than its red cousins—until it gets to the bottom row of the pyramid, that is. There it turns into a coiled snake that bounces from one square to the next like a malevolent bedspring. Coily is your worst enemy, because unlike your other adversaries, he follows you.

Coily is also one of the few characters you can destroy. When he chases you, head for a disk. If Coily is close enough to you when you hop onto the disk, he will try to follow you over the edge, where he plummets to his death (with a pitiful scream and a loud smack when he hits the ground—the smacking sound is made electromechanically, with a type of "knocker unit" that you used to hear when you won a free game on a pinball machine).

Learn how close Coily must be before he follows you over the edge. If he is three squares or more away from you, he generally won't follow. It is best to pause then—if it's safe—before jumping onto the disk to assure that Coily is close enough for this ploy to work.

You move faster than Coily, so don't use the disk until he appears to be closing in. You can be changing square colors at the same time that you are running away from the snake.

UGG AND WRONG-WAY

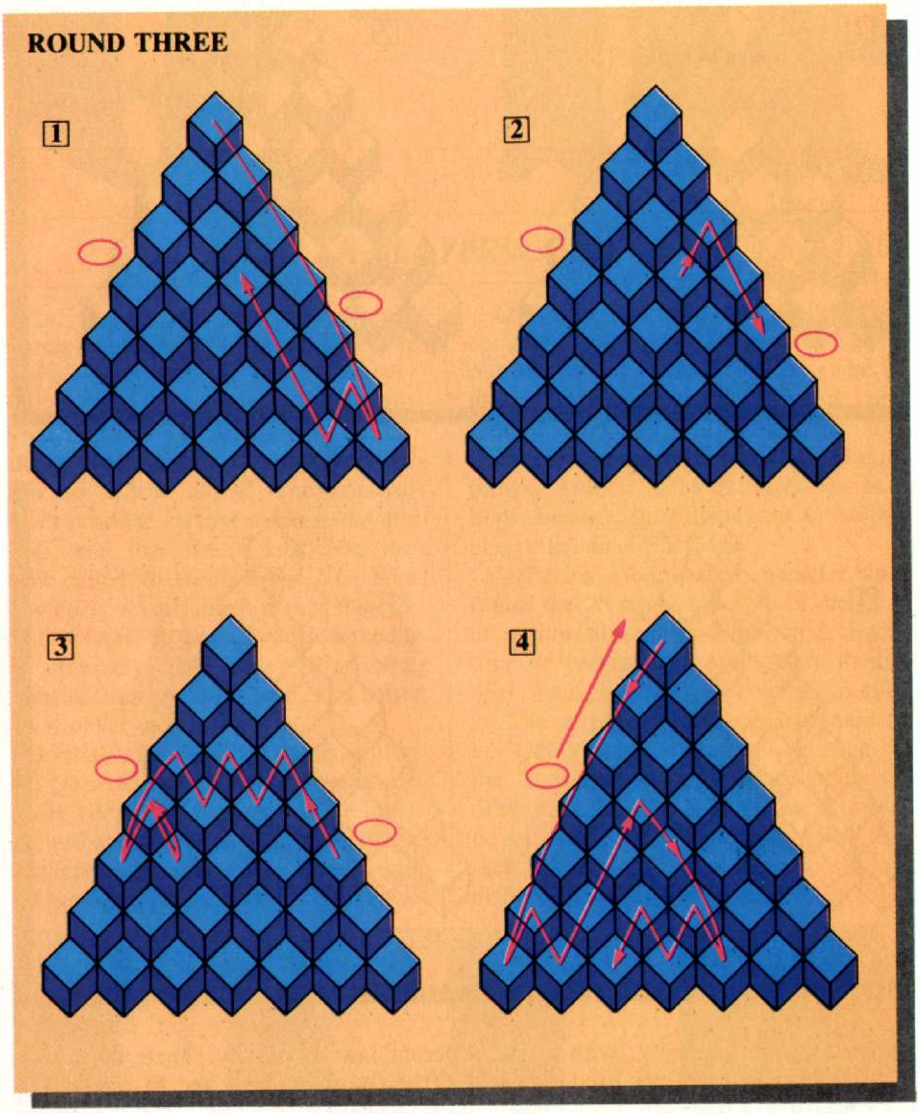
Prepare for some confusion on the third round. That is when Ugg and Wrong-way appear. They also roam the pyramid, and kill Q*bert simply by touching him. That's simple enough, except that they are governed by a different law of gravity. Their floors are Q*bert's walls. Ugg and Wrong-way's movements are random. They don't hunt Q*bert as Coily does, and they are not nearly as dangerous as you think they are when you first start playing the game. Once you get used to their odd movements, you will see that their true purpose is to confuse you.

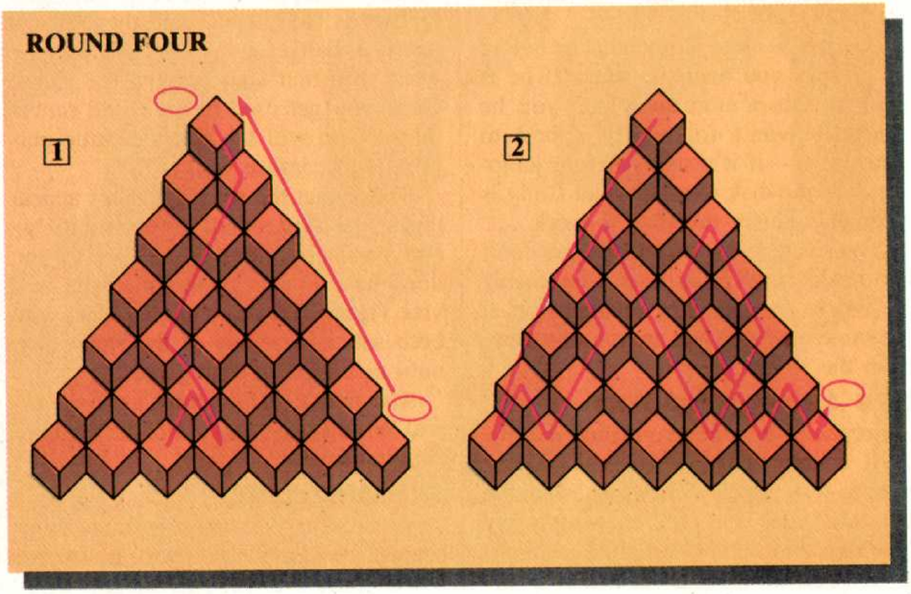
Notice that the red balls don't appear during the third round. In general, if Ugg and Wrong-way are on the screen, you don't have to worry about the balls, and vice versa. You don't have to deal with both sets of dangers at the same time until much later in the game.

Also notice that several Uggs and several Wrong-ways can patrol the pyramid simultaneously.

SAM AND SLICK

You'll learn to hate these raindrop-shaped devils. They seem to appear when you are about two squares away from completing a rack. That's bad news, because as they hop down the pyramid, they change the squares they touch back to their original color, meaning more work for Q*bert. Luckily, they don't hop back up again. Also lucky is the fact that they present no danger to Q*bert. Stop them by jumping on them.


ROUND THREE


ROUND FOUR

Even though you are slightly faster than they are, Sam and Slick are slippery. If you try to jump on them from below, while they are jumping toward you, you can "jump through" them, and miss them entirely. I mention this because you might later think that you can evade the other enemies in the same way if you get in a tight spot. It won't work.

THE ONLY GOOD GUY

The green ball isn't a character, but it sure helps you. Jump on the green ball, and all action on the screen freezes. You can jump anywhere you want (except over the edge) without harm. You can even jump onto a square that is already occupied by one of your enemies.

The freeze effect wears off shortly, though, so don't get caught near an enemy or under a ball when things return to normal.

GREEN VS. RED/PURPLE

Note that you can (and want to) capture anything that is green. Avoid anything purple or red.

However, *don't* scramble after the green ball or Sam and Slick without first checking to see what else is in the area. These attractive green things often lead you straight to Coily or some other enemy. Sometimes you are far more wise just to let them go. And if you have a choice between nabbing the green ball and completing a rack right away, go for the rack.

All of the characters and obstacles in the game except Q*bert, Ugg and Wrong-way land on the second level of the pyramid when they first appear on the screen. Remember that. It is important for two reasons.

First, the very top square is Q*bert's only real sanctuary. Ugg and Wrong-way can rarely get there, so only Coily poses a real threat to Q*bert when he is at the top of the pyramid. Of course, you don't want to stay there for too long, because you aren't getting anything done while you pause there. However, if a disk hovers next to that very top square, you may want to wait there safely while you lure Coily toward you and eventually over the edge.

More important is the second reason: the balls give you very little warning when they first appear. If you are on or heading toward those two squares on the second level, you will probably be surprised with a bop on the head by a ball. Stay away from those two squares, and

UGG AND WRONG-WAY APPEAR AT THE CORNERS, SO HEAD FOR THE CORNER THAT REMAINS CLEAR THE LONGEST.

try to clear them by jumping on a disk and jumping down on them instead of hopping on them from below.

Q*bert first appears on the top square at the beginning of the game. Should he fall off the pyramid, he reappears at the top. But if he gets squashed or bopped on the playfield, he reappears on the square on which he was caught.

Ugg and Wrong-way appear from the bottom corners of the pyramid and work their way up or across or both. Remember: when Ugg and Wrong-way are on the screen, it is fairly safe to patrol near the top of the pyramid—though you must still watch out for the purple ball.

MOVING AROUND THE PLAYFIELD

The *Q*bert* joystick has an excellent feel. When you move it, you can feel a "click," so you know it has registered your instruction. This helps you plan ahead. Suppose you must make three moves to complete a rack—down left, down right, down left—and you must make them quickly. Move the joystick down left. When you feel the click and see Q*bert begin his move, move the joystick down right. As soon as bert lands, he will start to make the second move. As soon as he does, make your third move. This way you can stay "ahead" of Q*bert by a fraction of a second.

This presents dangers, though, because you must stop Q*bert in advance, too. If you want him to jump only once, you must learn to let up on the stick as soon as Q*bert begins his move. If you hold the stick too long, Q*bert will make an additional hop you don't want him to make. Beginners dump many Q*berts over the edge that way.

You don't have to make several individual moves to get Q*bert to move continuously in one direction; simply hold the joystick up or down.

One overall strategy that will serve you well: clear one corner, work your way along the bottom edge to the other corner, then clear *that* corner. Lure Coily over the sides when you have to, but you can integrate the luring into your strategy, since many of the disks are positioned next to corner squares. Then worry about the center. Take care of the upper levels on your way back down the pyramid after you have ridden the disk to the top.

Ugg and Wrong-way appear at the corners, so head for the corner that remains clear the longest. Generally, that means that you will be going for the corner on your left first. But you should memorize where Ugg and Wrong-way appear on the various rounds, because it varies.

Make every hop count by jumping on unchanged squares whenever possible. In a sense, you are working against time. The faster you complete the rack, the less danger there is of running out of disks—and of Sam and Slick appearing.

*Q*bert* features nine levels, with four rounds (or racks) on each level. The first five levels demonstrate your five basic goals:

- Level 1: Hop on a square once to change it to its target color.
- Level 2: Hop on a square once to change it to its intermediate color, hop off, and hop back on to change it to its target color.
- Level 3: Hopping on a square once will change it to the proper color, but if you hop on that square again, it changes back to the original color.
- Level 4: Like Level 2, you must hop on each square twice. But if you return to a completed square, it returns to the intermediate color.
- Level 5: Again, this is like Level 2, but returning to a completed square changes the color back to the *original* color. That means that you must start all over on that square. (Levels 6, 7, 8 and 9 are like Level 5, only faster.)

On Level 2 and all levels that follow, take a quick look at the display in the upper left corner of the screen before you start each round. This display tells you what your target color is. More than once I have worked very hard to turn the pyramid blue when I was supposed to turn it yellow.

DEVELOPING PATTERNS

Gottlieb claims that you can't develop patterns on *Q*bert*. Gottlieb is wrong. When you successfully complete a round, try to duplicate your exact movements on that round during your next game.

However, you must build the patterns from the very start, because what happens during one round depends on what happened the round before—this is how Gottlieb fights patterns. Establish a pattern on Level 1, Round 1. Once it is set, *always* use it during that particular round, because it is the foundation for the setup during the next round. Now, develop your pattern on Level 1, Round 2. Once it is set, stick with it on that particular round. If you slip up and stray from the pattern, the patterns you have established for later rounds won't work.

Pictured here are my patterns for the entire first level of *Q*bert*.

THE FUTURE

Will we see a *Q*bert* sequel? The question has already been answered, because *Q*bert* joins an elite group comprising *Space Invaders, Defender* and *Pac-Man:* video games that have been translated into pinball games. Watch for Gottlieb's *Q*bert's Quest pingame*.

In the meantime, find yourself a Q*bert video and, well, get hoppin'. ■

Q*BERT SCORING TABLE

Square changed to target color:	25
Square changed to intermediate color:	15
Capturing green ball:	100
Capturing Sam or Slick:	300
Luring Coily over the edge:	500
Unused disk at end of round:	50

Bonus for completing round: 1000 for the first round, 1250 for the second, 1500 for the third, etc.—up to 5000 points per round

Most machines are set to award you an extra man after 8000 points, and then after each additional 14,000 points.

PAC-MAN

MASTERING PAC-MAN PLUS AND SUPER PAC-MAN/BY KEN USTON

Ken Uston is the author of *Mastering Pac-Man* (Signet Books, January, 1982), the first and most widely-sold book on how to play the classic arcade game. *Mastering Pac-Man* was listed for weeks on best-seller lists across the country, including those of *The New York Times* and *Publishers' Weekly;* 1.7 million copies of this classic were printed. In this article, Ken brings us up-to-date on how to play the two recent Pac-Man variations now popular in the arcades.

Pac-Man, of course, is The King Of The Coin-Op Games. It far out-scored the two previous hits: Space Invaders, which is credited by many with starting the arcade explosion in 1979, and Asteroids, the star of 1980.

Hundreds of players racked up enormous Pac-Man scores, well into the millions, using pre-determined patterns of movement through the maze. Some patterns enabled players to continue almost indefinitely.

In early 1982, the first Pac-Man spin-off appeared on the scene, a distaff version of the monster maze game, called Ms. Pac-Man. Patterns didn't work for Ms. Pac-Man because, unlike the Pac-Man monsters, the new pursuers did not move in totally predictable patterns through the maze. (I have seen some patterns that lead to high Ms Pac-Man scores, but they don't work with the consistency of the Pac-Man patterns.)

Ms. Pac-Man soon dominated arcade action. Bally, mindful of the Pac-Pot of gold behind the well-known smiling yellow video megastar, soon came out with two more versions which have been popping up in arcades across the country over the last several months. It's good news once again for methodical, cerebral-type players, because both of these renditions, in varying degrees, can be mastered by using patterns.

PAC-MAN PLUS

One of the new games, Pac-Man Plus, has a secure place in the annals of the arcade history because it is the first widely-used legal "speed-up chip." (In 1982, third party manufacturers began producing revised chips for some of the coin-ops to make it more difficult for players to score millions of points and tie up the machines for hours on end. The coin-op manufacturers went to court and succeeded in getting a ruling making these illegal.) The Pac-Man Plus chip, which fits into the regular Pac-Man cabinet, is legal because it is manufacturered by Bally, the makers of the original game.

Pac-Man Plus (I'll refer to it as "P+" from now on) has the same board layout as conventional Pac-Man (shown in Figure 1). But there are key differences from the original game:

1. The monsters revert to their vulnerable state if the player "eats" either an energizer or a symbol (only the energizer causes this transition in Pac-Man).

2. Points awarded for eating monsters after eating a symbol (not an energizer) are twice as high as in the conventional game (400, 800, 1600, and 3200 points, respectively).

3. When the monsters are in their vulnerable state, they occasionally become invisible, and one monster occasionally remains in his normal, dangerous predatory condition.

I have developed a pattern that should allow the average player to score about 100,000 points on P+. The pattern is fairly easy to learn and is the only one that must be memorized for the first ten boards or so. (In conventional Pac-Man, the 100,000+ scorer must memorize several patterns.)

As is the case with Pac-Man, there are two types of Pac-Man Plus games, a fast game and a slow game. This pattern works for fast game boards. In the slow game, the first several boards are quite easy to clear improvisationally; the pattern can be used to clear the advanced boards.

The Pac-Man Plus boards are arranged as shown in Table 1.

TABLE 1

Board Number	Symbol	Value of Symbol When Eaten
1	Can of Coke	100 points
2	Lemonade	200
	(interlude)	
3 and 4	Peas in a pod	500
5	Apple	700
	(interlude)	
6	Apple	700
7 and 8	Bunch of grapes	1000
9	Galaxian (Bird)	2000
	(interlude)	
10	Galaxian (Bird)	2000
11 and 12	Two pieces of Toast	3000
13 and beyond	Pancakes	5000

The pattern in Figure 1 works consistently up through the first Galaxian board and sometimes a board or two

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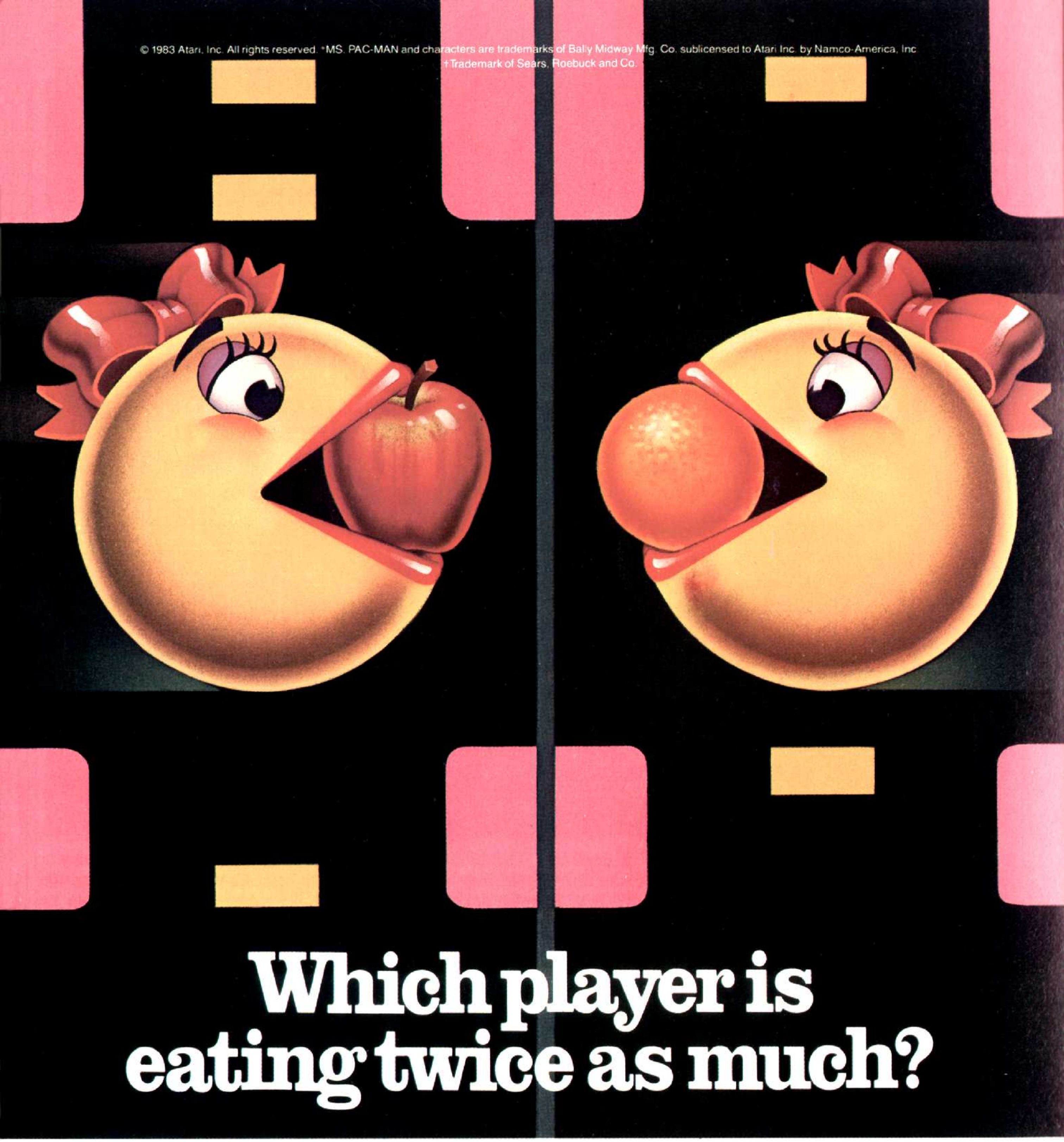
Which player is eating twice as much?

Think fast. Here comes MS. PAC-MAN* from Atari®.

Meet the new home version of MS. PAC-MAN. She looks and plays so much like the arcade, she's unlike any home video game you've ever played before. And she's only from Atari for use with the ATARI® 2600,™ and the Sears Video Arcade† systems.

You get four ghosts. Four mazes. Escape tunnels. And lots of floating munchies. Pears to pretzels, apples to oranges. To get the top banana, worth 5000 points, you have to know your little lady backward and forward.

ATARI 2600
MS. PAC-MAN

The way the player on the left does. He gets 1000 points for the apple. While the player on the right gets only half as much for the orange. But plenty of indigestion.

So escort MS. PAC-MAN out of the arcade.

Because this woman's place is in the home.

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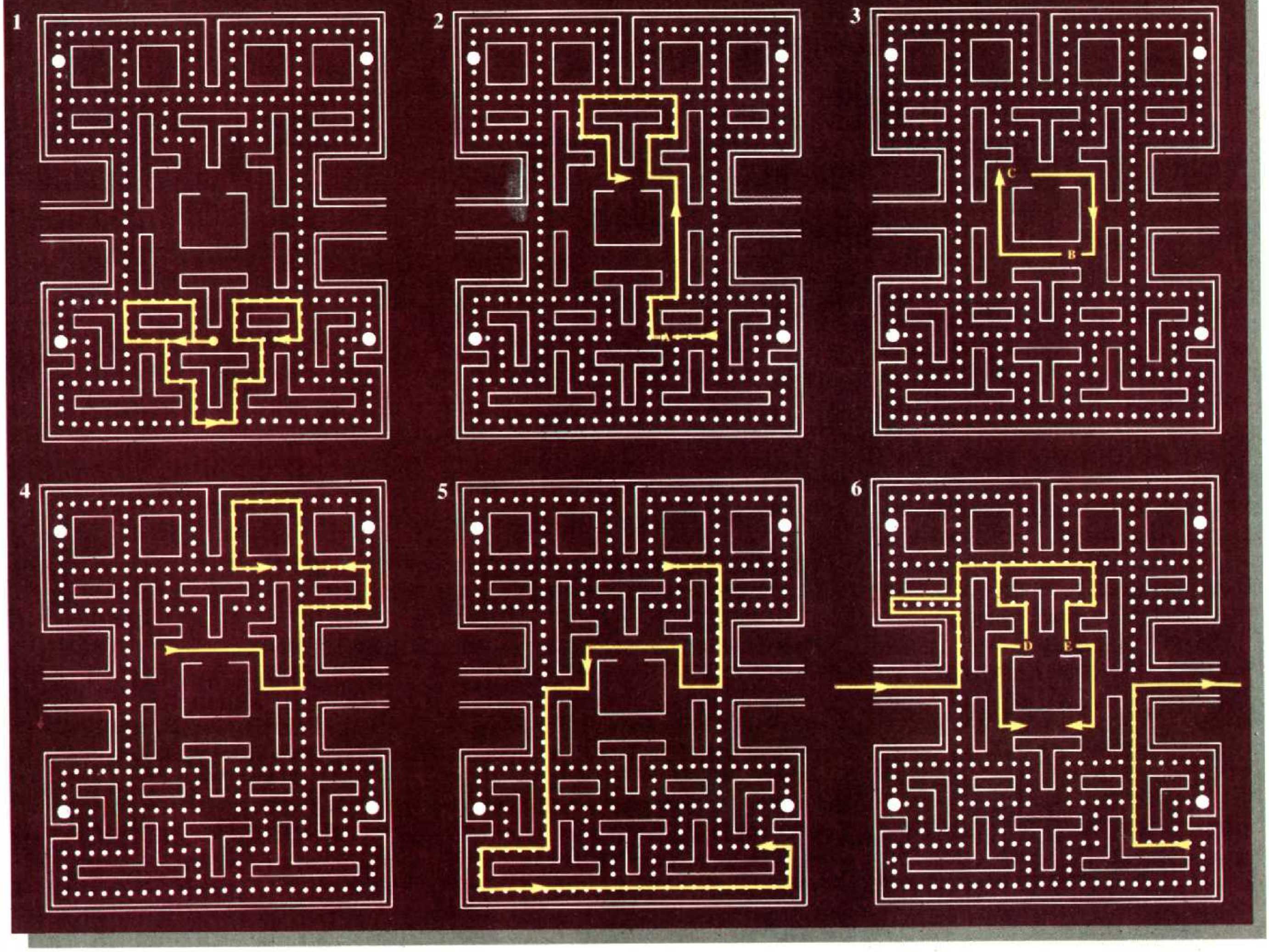
CIRCLE 14 ON READER SERVICE CARD

FIGURE 1

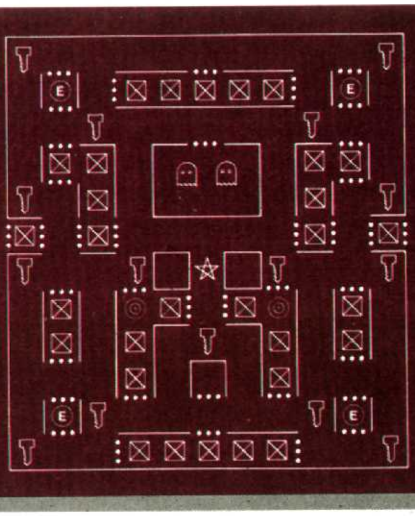


beyond that, depending upon the player's timing. Most players will have a six-figure score by that time. Scores will vary because points per board completed fluctuate even more in P+ due to the larger monster-eating bonuses.

For Charts 1 and 2, just follow the path as depicted. When you approach point A in Chart 2, you may be tempted to move away from the light blue monster. Don't. Adhere to the pattern; you'll be safe.

On Charts 3 and 4, hesitate and make a brief reverse at point B. Then continue clockwise, eating the symbol; when you get to point C, you will start eating the invisible monsters. You will often be able to eat all four monsters as you continue along the path shown in Chart 4. If you do, you will rack up 6000 bonus points (400 + 800 + 1600 + 3200).

FIGURE 2



LEGEND

☒	**Symbol**	30
⍑	**Key**	15
Ⓔ	**Energizer**	4
◎	**Super Energizer**	2
☆	**Bonus Star**	1
—	**Permanent Divider**	
···	**Gate**	
--	*(Opened by hitting appropriate key)*	

For Charts 5 and 6, follow the patterns. When you get to the northwest corner in Chart 6, eat some dots (you don't have to eat the energizer at this point) and then get the symbol a second time. Your path into the center may be either path D or path E, depending upon the danger posed by the monsters.

After Chart 6, merely clear the energizers, without worrying about chasing monsters. At this point, there are two key points to remember:

- *Play conservatively*. Your goal is to finish the board, not to eat an extra monster or two (you will amass far more points by clearing boards and eating subsequent symbols).
- Watch for the one monster that doesn't turn blue. This is another good reason to try just to complete boards without being concerned with monster-eating. The monster you plan to eat first may not turn blue, and your Pac-Man, standing nearby, may meet his immediate demise.

With a little practice, this pattern should get you up to 100,000 points. Beyond the tenth board or so, improvisation is necessary. The final pancake symbol is the equivalent of the well-known. Pac-Man blue key: it is the final symbol, it is worth 5000 points, and it continues to appear indefinitely. If you get through the first pancake board, your score should be around 150,000.

SUPER PAC-MAN

Unlike Pac-Man Plus, Super Pac-Man is a totally new game, with a different concept which has a significant effect on the good player's strategy.

In Super Pac-Man, there are 30 symbols and two types of energizers scattered around the maze, located inside of partial partitions (see Figure 2). These must all be eaten before you complete the board. Throughout the Super Pac-Man (SP) board are little gates, each of which can be opened by hitting an appropriate blue key. There are 15 such gates, each with a corresponding blue key.

An important new feature in SP is that Pac-Man may become totally indestructible—hence the title of the game. Even kryptonite cannot adversely affect our friend, who becomes enormous and can run safely through gates, monsters, and keys.

SP is a unique Pac-Man rendition in that it has two controls, rather than one. In addition to the conventional four-way joystick, the player controls a button which makes Super Pac-Man travel as fast as a speeding bullet. Thus he can cover more territory while in his "super state," allowing the player to amass more points.

Two super energizers convert Pac-Man into Super Pac-Man. A bonus star also appears periodically; the player gets

FIGURE 3

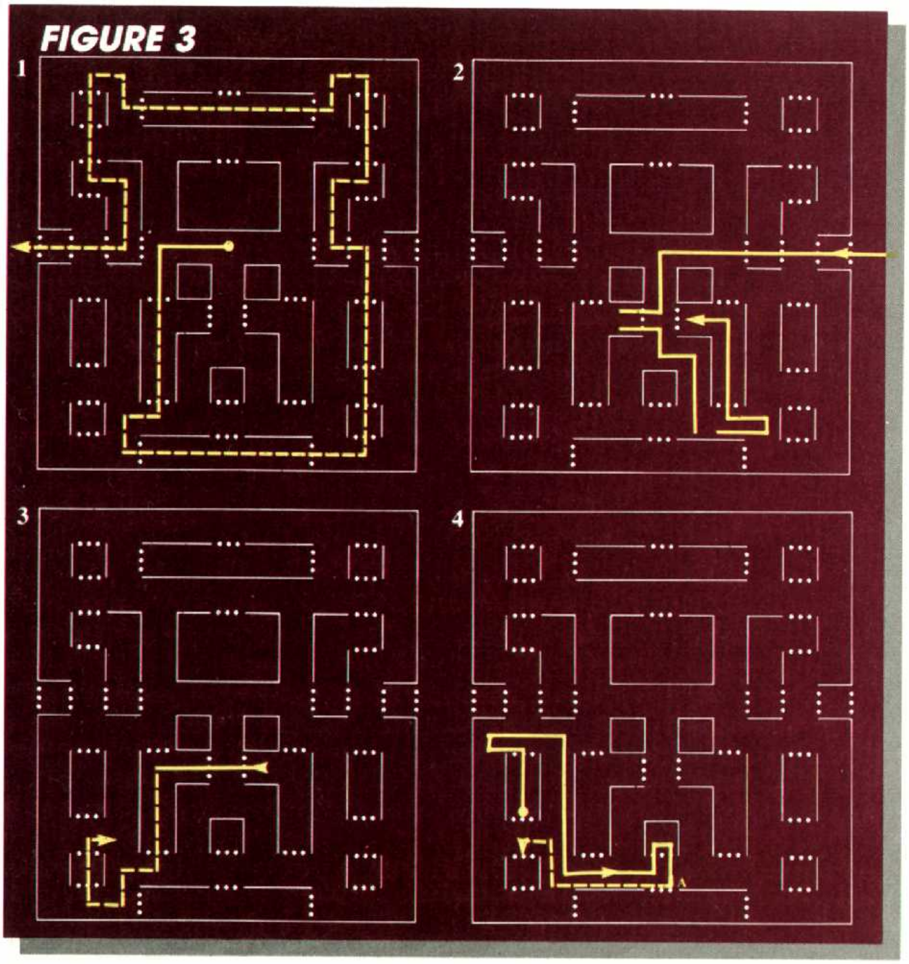


FIGURE 4

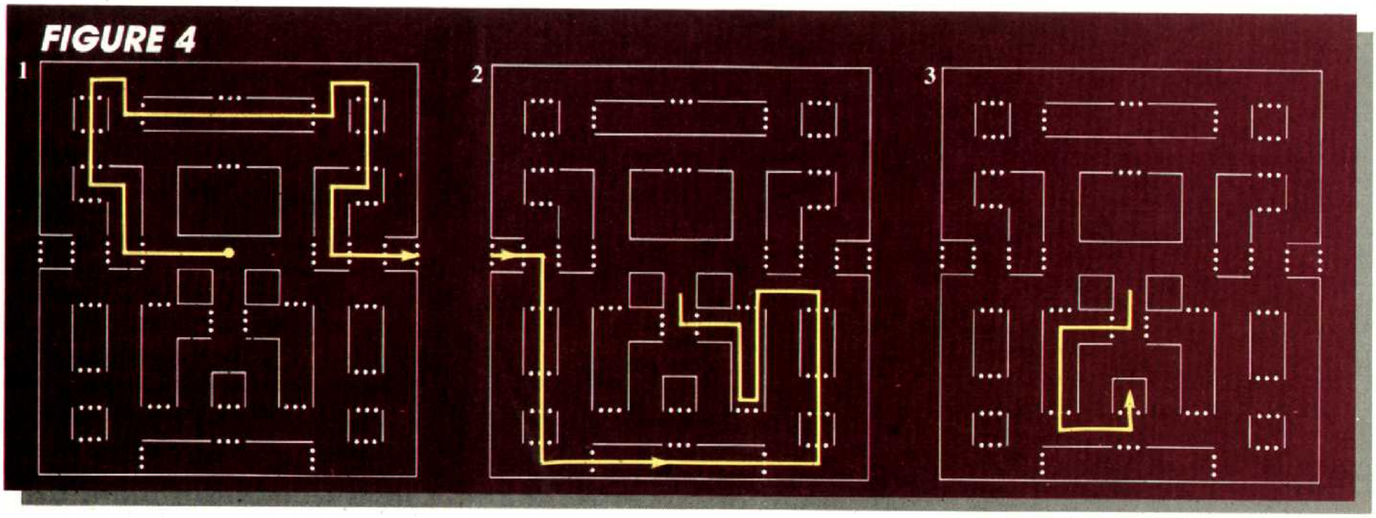


FIGURE 5

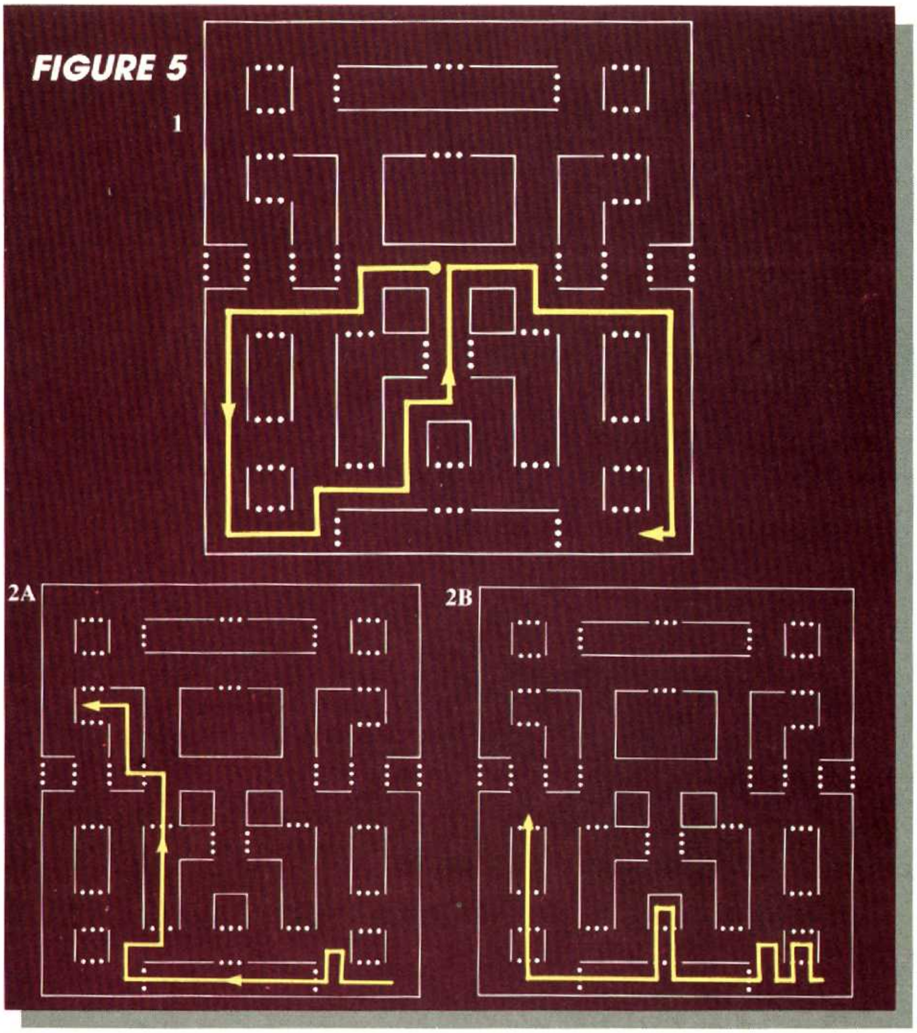


TABLE 2

Board Number	Symbol	Value of Symbol When Eaten
1	Apple	10
2	Banana (interlude)	20
3	Donut (Bonus Stage)	30
4	Hamburger	40
5	Fried egg	50
6	Corn on the cob (interlude)	60
7	Shoe (Bonus Stage)	70
8	Cake	80
9	Purple peach	90
10	Pineapple	100
11	Cup of coffee (Bonus Stage) (interlude)	110
12	Mushroom	120
13	Bell	130
14	Shamrock	140
15	Galaxian (Bonus Stage)	150
16	Gift Box (last symbol) (interlude)	160
17	Apple	160
18 on	Symbols repeat	Always 160

additional points for hitting it.

After several boards are completed, the player is awarded a bonus stage (similar to the challenge stages of Galaga) in which he cannot lose his man. If the player is able to clear the entire board during the bonus stage, he is awarded a large point bonanza. This is where the pattern player will be able to excel, because, as we will see, there is a single pattern that can be used to consistently clear the bonus stage boards.

Super Pac-Man boards occur in the sequence shown in Table 2.

Figure 3 shows the pattern that will complete the first two boards, the Apple and Banana. As in Pac-Man and Pac-Man Plus, there are both fast and slow games.

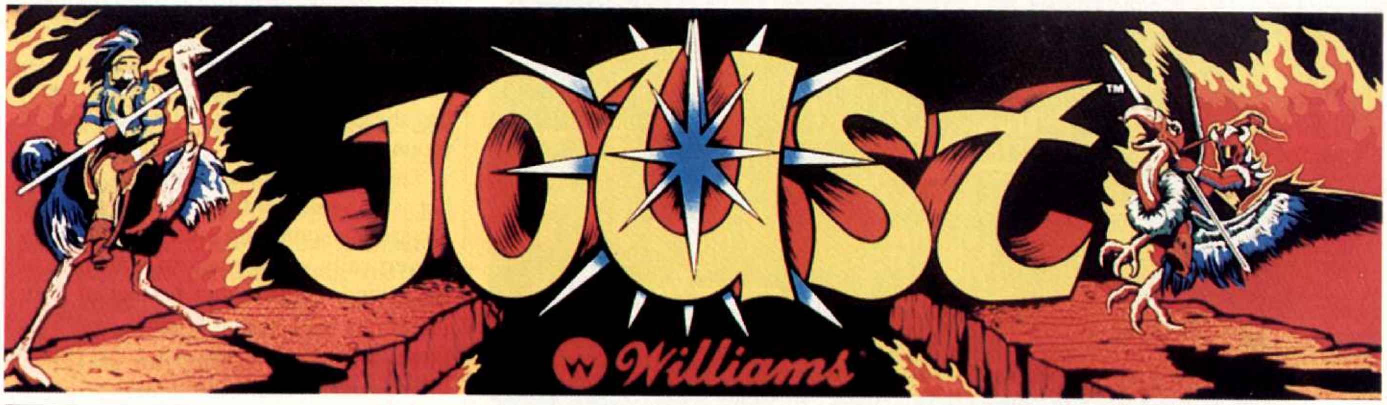
The Figure 5 pattern applies to the initial fast game boards and later slow game boards; the earlier boards of the slow game are completed rather easily through improvisational play.

The button should be pushed at *all* times when Super Pac-Man appears. In Charts 3 and 4, after hitting the southwest energizer, immediately push the button and eat as many monsters as possible at point A, before finishing the board.

The bonus stages offer large bonuses if all symbols and energizers are eaten before time runs out. Figure 4 shows the pattern that will enable you to do this. Again, the button should be held down throughout. Happily, this pattern works for all bonus stages, even the advanced ones. It will take a few practice games to be able to negotiate some of the subtle movements at the super speed.

I have not yet discovered a single pattern that will work universally for the subsequent non-bonus boards. However, a good rule-of-thumb to remember is: eat the keys in the lower quadrant first (as shown in Figure 5). This will open all the lower gates. The path depicted in Figure 5 will generally work. After Chart 1, the bottom nine keys can be cleared by following the path on either Chart 2A or 2B. This varies from board-to-board.

As in Pac-Man and Pac-Man Plus, the key to this game is to progress through as many boards as possible without risking destruction by trying to eat extra monsters. This is because most point values increase with each subsequent board. As importantly, you will have the opportunity to play more bonus stages, which you should be able to complete time and again with the pattern in Figure 4. ■



BY OWEN LINZMAYER

In addition to one of the most beautiful playscreens in the arcade world, *Joust* boasts one of the most ardent groups of followers I have seen. One reason for the success of *Joust* is that with two players, both are engaged in the game simultaneously. This leads to a feeling of comradeship between players as they use skill and teamwork to overcome their adversaries.

As you fly your bird around the screen, you must keep in mind that the object of *Joust* is to unseat enemy riders and retrieve the eggs that fall as a result of a collision. To successfully knock a knight off of his mount, the lance that you wield must be higher up than his when your two birds make contact. Basically, that's the entire game. When two people play, they are confronted with more sophisticated and intriguing waves of enemies and they must make additional strategy decisions. Most important, they must decide whether to compete or cooperate.

The playfield consists of two wooden islands suspended in midair near the center of the screen, a large ledge at the bottom, and two other ledges that wrap around. For the most part, the players remain airborne, trying to unseat enemy riders while avoiding collisions with the ledges. If a player runs into a ledge, he bounces off unharmed.

You have a two-directional (left and right) joystick that controls the direction in which your mount moves. By repeatedly tapping the flap button on the control panel, you lift your bird off the ground and up into the air. If you stop pressing the flap button, you gracefully lose altitude and ultimately land.

PLAYERS

The first player in *Joust* is portrayed as a yellow knight mounted upon an ostrich. The second player is blue and rides a stork. Slung in your arm is a lance with which you unseat other riders.

ENEMY RIDERS

The enemy rides upon green-winged buzzards. The color of the enemy riders indicates their level of skill. You encounter only red knights, Bounders, at the start of the first wave, but more aggressive enemies gradually enter the fight. Grey riders, Hunters, are quicker than the red, but steel-blue knights, the Shadow Lords, are more powerful than the other two combined.

SCORING

Event	Point Value
Losing a mount	50
Unseating Bounder	500
Unseating Hunter	750
Unseating Shadow Lord	1500
Killing Pterodactyl	1000
First egg	250
Second egg	500
Third egg	750
Fourth egg and all thereafter	1000
Bonus for catching egg in air	500
Successful Gladiator Wave	3000
Successful Survival Wave	3000
Successful Team Wave	3000

Additional mounts are awarded at operator-selectable point intervals. Losing a mount resets eggs to base value. Point values listed are the most common settings.

EGGS

When a player unseats an enemy rider, a green egg falls from the point of collision. The eggs in Joust are quite resilient—instead of breaking, an egg bounces when it hits a ledge. If an egg remains untouched for a few seconds after it lands, it hatches and a more dangerous adversary emerges. When one of these standing knights appears, a buzzard flies onscreen and attempts to pick him up.

PTERODACTYL

Like Evil Otto in *Berzerk*, this riderless creature appears if you are taking too much time to complete a wave. It swoops horizontally across the screen and announces each pass with a horrible shriek. Coming into contact with a pterodactyl is deadly. Once you have unseated all of the enemy riders and cleaned up the eggs, the pterodactyl flies offscreen.

LEDGES

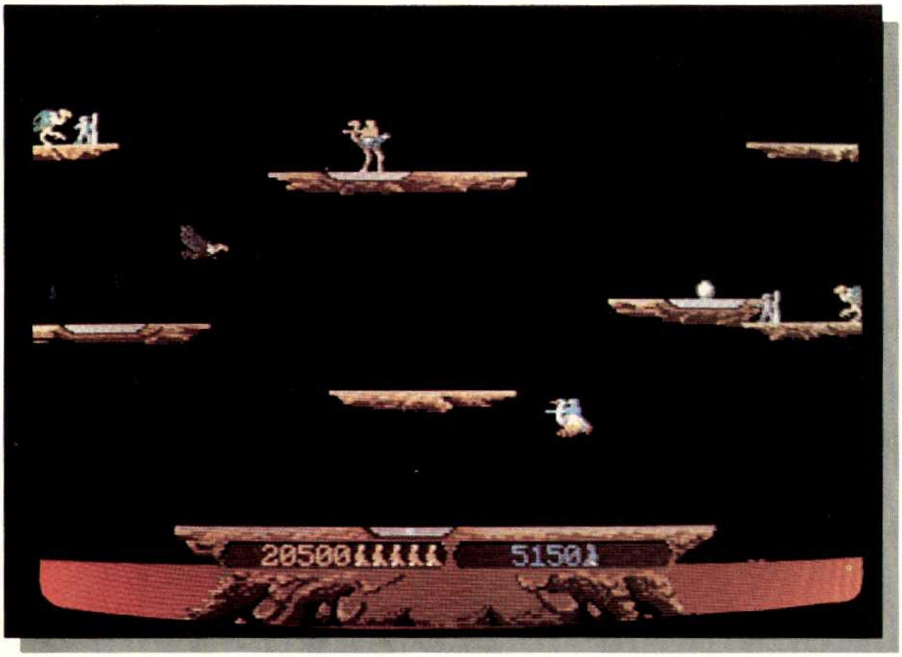
Any wooden slab upon which you can land is called a ledge. The position of the ledges is the same in every game. Certain ledges dissolve at the beginning of predesignated waves.

PORTALS

Portals are grey slices imbedded in the wooden ledges. They mark the positions from which new riders enter the playfield. If a bird is hovering close to or above a portal, no new riders may enter the combat through that portal. At the beginning of a game, there are four portals located at various positions among the ledges. As ledges dissolve, the portals diminish in number.

WOODEN BRIDGE

Found extending across the length of the screen on the bottom ledge, the wooden bridge is slowly consumed by the rising fire beneath it. You can land on the bridge as long as you are careful not to walk over the edge into the lava.



LAVA LAKE

The lowermost ledge on the screen is surrounded by a lava lake. Anything that falls into this lake of boiling red liquid is destroyed immediately.

LAVA TROLL

The lava that destroys the bridge is home to a menacing troll. The little whisps of flame that flicker on the surface of the lake indicate the presence of the troll. Should a rider swoop down too low, the lava troll will thrust his hand upward and grasp at the bird. During advanced levels of play, the player cannot flap hard enough to break the troll's grip and a slow death ensues as the troll drowns both bird and player.

JOUST
JOUST

STRATEGY

For longer games, always play *Joust* with another person. Players should be relatively equal in skill so that the individual scores do not become too unbalanced. When engaged in dual play, it is essential that both players cooperate. If you fight against each other, your game will inevitably be shorter. Play as a team and enjoy the thrill of beating the computer-driven opponents.

One drawback to playing with another person is that although you may live longer, the total number of points is divided between players. This means that your score on any given wave will be lower when you are playing with a partner than if you were playing alone. Keep in mind, however, that the total amount of time you spend per game is extended by playing as a team.

It is important when playing together to keep track of each player's position at all times. Remember, the player's knights are yellow and blue; anything else is an enemy rider and should be eliminated. It may sound stupid, but players often find that they lose track of their own mounts. With the multitude of other birds, the numerous collisions, and the wraparound feature, it is surprisingly easy to get confused.

The designers at Williams sure know how to create conflict in a game: offer points to the first player who kills the other. This is the object of the Gladiator Waves. Although there is a prize of 3000 points, neither player should go for this, because in the long run both players will be disadvantaged by the loss of a mount.

The most important thing to remember is to avoid conflict between players. Divide the screen up either horizontally or vertically and remain in your part of the screen. Inform your partner of your intentions with remarks such as "Stay there, I'll get this guy when he comes up."

When you defeat an opponent, it turns into an egg. To earn extra points, try to catch each egg before it hits a platform or falls into the lake of lava. If a green 500 appears above the regular score when you catch an egg, you have been awarded the bonus points.

When you decide to go after a falling egg, make sure your partner knows what you are doing. Greed often gets the best of players when they fail to communicate effectively. There are two strategies which can be employed to avoid such player conflict. The first requires that the player who unseats the enemy rider is entitled to the resulting egg. In the second, players stake territorial claims on different ledges. Use whichever method works best for your style of play.

If it is safe to do so, try to pick up an egg right after it lands. When an egg hatches, a tiny knight appears; and waits silently for a new mount. It is safe to swoop in and grab this knight as long as he is not about to climb aboard a fresh buzzard.

Team Waves occur only when two people are playing *Joust*. If one player unseats the other during a Team Wave, it

IF YOU FIGHT AGAINST EACH OTHER, YOUR GAME WILL INEVITABLY BE SHORTER. PLAY AS A TEAM AND ENJOY THE THRILL OF BEATING THE COMPUTER-DRIVEN OPPONENTS.

is registered as a conflict and no points are awarded. Each player receives a generous 3000-point bonus if both survive a Team Wave without any conflicts.

Beware of the very top of the screen because there is no visible border to help you accurately gauge the amount of headroom you have. Since the enemy birds are controlled by the computer, they can slide perfectly along the topmost edge. This gives them the advantage of optimum positioning.

Be on the lookout for areas from which enemy birds can unexpectedly bounce down upon you. Due to the ability of elements to wrap around, one of the most dangerous places to be is along the right or left side of the screen.

It is also dangerous to try to hover below a ledge, because often you will hit the section above you and bounce down into the path of an enemy bird. Remember, each time you collide, you bounce around and lose your orientation.

EVERY FIFTH WAVE IS CALLED AN EGG WAVE

Each person who plays a Survival Wave without losing a mount is awarded an additional 3000 points. This is a very nice bonus, so be extremely careful during these waves.

When you hover between two ledges that are on the same level, you prevent the birds that are below you from going up to a higher level, but you leave yourself open to attack from the birds overhead. If there is nothing above you, then these midway positions are safe. The nice thing about being between levels is that you can drop down onto the enemy birds as they pass beneath your wings by simply removing your hand from the flap button.

Remember, eggs bounce when they hit ledges, they do not break. Knowing this will allow you to glide in and catch an egg on the rebound rather than landing to pick it up. Avoid coming to a complete halt if you ever have to land on a ledge. Since the game elements in *Joust* are governed by the laws of normal physics, you must build up momentum before you can become airborne again. This takes precious time.

Every fifth wave is called an Egg Wave. That means that instead of riders materializing through the portals, the wave begins with eggs scattered about the ledges. All at once, a flock of buzzards flies onscreen, and the eggs start to hatch. To prepare for an Egg Wave, each player should be positioned at the end of a long platform at the close of the preceeding wave. Preferably one player should be on the topmost ledge, and the other on the middle ledge. This set-up works well because the middle ledge is broken, so you need more time to grab all the eggs on it. Two players working together should be able to collect all of the eggs before any bird has a chance to glide in and pick up a rider.

The dreadful pterodactyl is not as invincible as the manufacturers would have you believe. In fact, it is simple to kill the winged reptile as it enters the playfield at the beginning of the pterodactyl wave (8th wave and every 5th wave thereafter). The trick is to land on the center platform in the middle of the screen and come to a complete halt. When the pterodactyl rears its ugly head, quickly push the joystick so that you are facing the creature. The pterodactyl flies up to your position and then thrusts forward—right into your lance!

The beauty of this trick is that you can also use it on other waves when the last enemy rider is helplessly caught in the clutches of the lava troll. Simply wait on the center platform for the pterodactyl to appear and when it does, turn toward it and watch it run blindly into your weapon. As long as the last rider can't break free from the lava troll, the pterodactyls keep coming—faster and faster. If you wait long enough, after killing about nine pterodactyls, the creatures appear very rapidly, so it is best that you destroy the enemy rider to complete the wave before you find yourself greatly outnumbered by raging pterodactyls.

If for some reason you can't stab the pterodactyl, the best thing to do is avoid it. When this annoying creature appears, fly up or down to a different level. It will make a swooping pass and then try to move to the level that you are on. Once it positions itself, change your altitude with respect to the bottom of the screen. The quicker you complete the wave, the sooner the pterodactyl will disappear.

As you progress through the different waves in *Joust*, certain ledges dissolve. While this clears the screen of some unwanted obstacles, it also makes for unrestricted warfare. At the beginning of every 5th wave, the board is returned to its original configuration, and the deterioration process begins anew. ■

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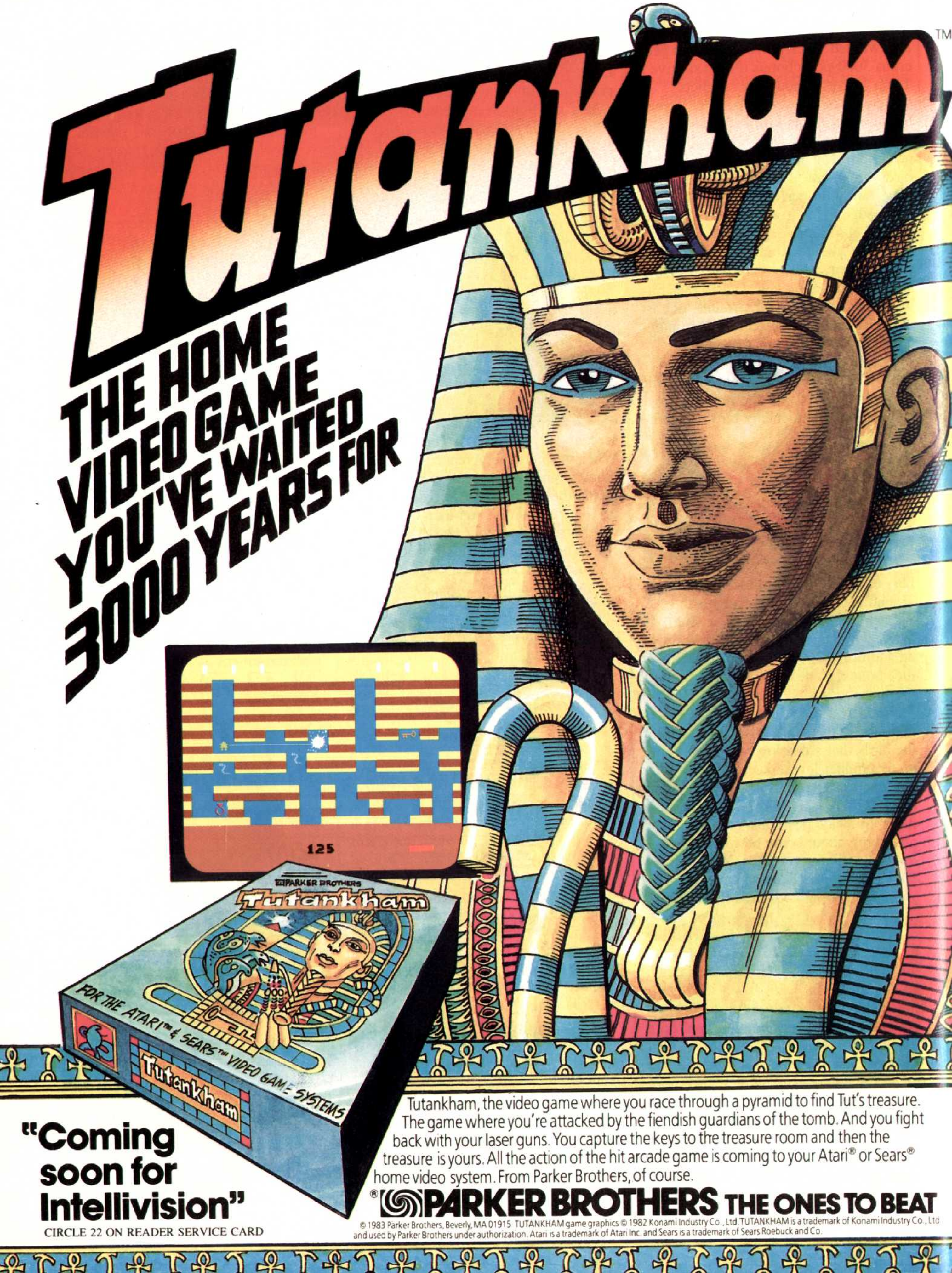
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HOME VIDEO GAMES SECTION

JEDI ARENA

BY ADAM THOMPSON

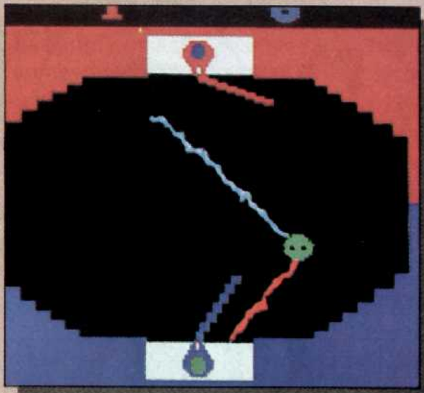
Just as sure as the third Star Wars installment, "Return of the Jedi," is going to make a killing in the theaters, the Parker Bros. *Jedi Arena* game for the Atari is going to climb the popularity charts.

Jedi Arena can be played competitively by two people or solo against a computer opponent. To wield the mighty lightsaber, you need a working set of paddle controllers. If you don't already own them, I recommend that you purchase a pair of paddles so that you may play *Jedi Arena* as well as the many other games that require them.

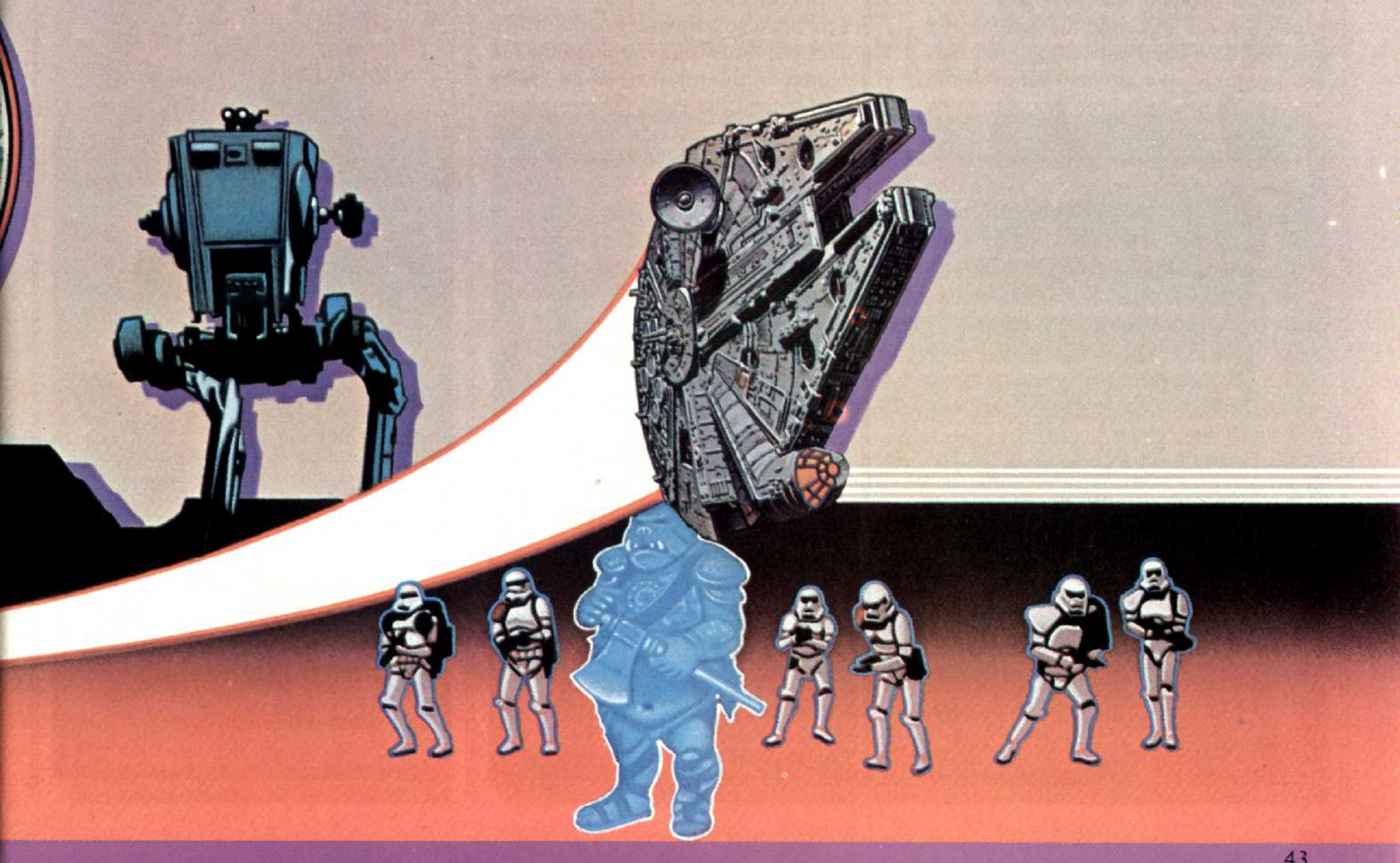
The object of *Jedi Arena* is to win three bouts against your opponent. To win a bout, you must blast a hole through the enemy's force field and then penetrate it with a final bolt from the seeker which is the small ball that floats horizontally at mid-screen. Each time a bolt of yours sneaks by your opponent's lightsaber, a small piece of his force field is destroyed. This is a bit reminiscent of *Breakout*. If you successfully block a shot with your lightsaber, it is temporarily held in place by the tremendous force within the seeker.

You aim your shots by rotating the paddle which in turn points your lightsaber. When you press the red fire button, a bolt of energy is released from the mobile seeker in the center of the screen. The energy burst is fired from the seeker in the same direction as your lightsaber is pointing. This means that if the seeker is on the right hand side of the screen, you must point your lightsaber toward the left if you hope to hit the enemy's force field. Unfortunately, this position leaves you open to attack . . .

Played against the computer at the lower levels of difficulty, *Jedi Arena* poses no threat. But only a true Jedi Master can defeat the computer opponent at the advanced play levels. During a two-player game, the fun and competition really picks up. Each player must carefully manipulate his lightsaber so that he doesn't leave himself vulnerable while trying to stab his opponent in a weak spot. All the while, the contestants must beware of the energy level building inside of the roving seeker. If it is allowed to peak, the seeker violently lashes out in an uncontrolled moment of frenzied attack.



The glowing multi-colored laser blasts are thrilling and the full bodied sound effects add to the realism of the game. Without the many game settings, *Jedi Arena* might prove tiring, but luckily there are eight different variations to challenge the Jedi Master in us all. Good luck, and may The Force be with you as you twist your paddles and twitch your buttons. ■

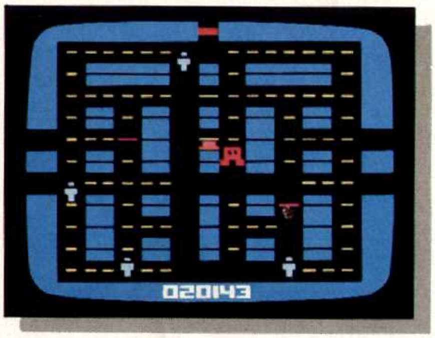


ROUNDUP

ATARI VCS GAMES /BY MARTHA KOPPIN

LOCK 'N' CHASE™

(M. NETWORK)



GAME DESCRIPTION

Instead of being the good guy in this game, you are directing the actions of a thief inside a vault containing gold bars and treasures. We are not told to whom this wealth belongs; I prefer not to think of the poor soul who has worked hard all of his life so that he can take it easy in retirement and provide for his ailing child . . .

At any rate, sentimentality will get you nowhere in this game. You are to steal all the bars in each vault and as many treasures as you can. The treasures show up for a few seconds and then disappear; you must be very quick to score on these but they are worth big points if you succeed.

Also in the vault with the thief and the gold are four policemen. Obviously, they try to capture the thief and foil his plan, but at first are not tremendously effective. Sometimes they doggedly track the thief, but just as often they turn around and go in the wrong direction. Usually your thief will be able to pick up quite a few bars before making a fatal mistake.

The trick is to stay out of the corners as much as possible, for two reasons. First, it is a good place to get trapped, and also it is the farthest point from the spot at which the treasures make their appearance (the center of the board). It is difficult to make the trip all the way from a distant corner to the center of the board before the treasure disappears, and in your haste a cop may waste you!

To make the thief's task a little easier, there are two open doors on each side of the vault. He can exit through one of these, reappearing on the other side of the screen. This is a useful evasion tactic, assuming that there are no cops waiting on the other side.

There are also temporary doors which the thief can throw up (you press the red fire button on the joystick) as he makes his way around the vault. These remain shut only a few seconds stopping not only the cops, but also the thief, and therefore must be used with caution. More than one of my thieves has locked himself into a corner with a policeman—they show no mercy.

If you can manage to trap a policeman between two temporary doors you will be awarded 2000 extra points as well the privilege of putting him out of action for a little while.

Fortunately, this is not a one-man job; there are four extra thieves waiting in the wings, in case the first gets captured. Each time a thief is captured the action stops and you must restart the game by pressing the red button. The action also stops each time you clear a board of gold bars. As the game gets more intense, you will be grateful for the chance to breathe.

Aside from the obvious score-building, your main objective here is to remain alert for an escape route. Unless the cops are busy elsewhere, your man must be prepared for their sudden appearance in front of him. However, they are not athletes, and you should have little trouble outrunning them.

GAME VARIATIONS

Game 2 is the two-player version of *Lock 'N' Chase*.

COMMENTS

I like this one! It is similar to, but much better than, Atari's *Pac-Man*. Also, it is possible to improve your score significantly with practice. ■

SCORING

Gold Bars	20 points each
4 Upper Treasures. . . . . . . (each screen)	500 for the first, with the points doubling for each one thereafter.
Lower Treasures	250 each on the first screen with points doubling on each screen thereafter.
Trap a Cop	2000 points (possible only once per screen)

THERE ARE FOUR EXTRA THIEVES WAITING IN THE WINGS.

JAW BREAKER

(TIGERVISION)

GAME DESCRIPTION

Jawbreaker is a hypoglycemic's fantasy. You (actually your teeth) are trapped in a candy factory, and your objective is to eat all the candy bars while avoiding collisions with the smiling faces (dental assistants?) gliding back and forth through the rows.

AFTER EVERY EVEN-NUMBERED FRAME YOU EARN A NEW SET OF DENTURES.

The factory is set in rows, between which are sliding doors. These sliding doors are particularly valuable in avoiding the dental assistants since they are not able to follow the teeth through the openings. At first it seems more trouble than it's worth to master the art of slipping through the moving doors without colliding with the dental assistant in the next row. However, as the speed of these villains increases, you will no longer be able simply to outrun them, and you must use a more sophisticated strategy.

The smiling faces can approach you from either side of the screen, and will change directions to chase you, especially if you get too close.

The joystick moves the teeth horizontally or vertically, with the red button acting as a brake to stop their movement. When the button is released, the teeth will resume movement in the direction they were headed.

Up to three times during each frame a vitamin pill will appear in the center of the maze. It will remain there until you eat it, at which time you will have a brief spurt of energy to turn on the smiling faces and eat them for bonus points. As the energy starts to run out, the faces will flash red and white a couple of times. It is risky to go after them at this point, since they may turn malicious at the precise moment you touch them.

There are 135 candy bars in the maze; when they are all consumed, a toothbrush comes out to clean your teeth, you are awarded bonus points, and a new frame appears. After every even-numbered frame you earn a new set of dentures, with a maximum of three at any one time. The number of sets of teeth remaining is displayed in the top left corner of the screen.

Since the extreme top and bottom row have only one escape door each, they are somewhat harder to clear of candy bars without meeting up with the smiling faces. Therefore, it can be to your advantage to do these when the faces are edible, especially as the speed of the game progresses.

It is also to your advantage to delay the clearing of the board until all three vitamin pills have appeared and been eaten. Since eating smiles is worth big points, don't hurry on to the next, faster, frame before getting as many of those insipid faces as possible.

IT IS TO YOUR ADVANTAGE TO DELAY THE CLEARING OF THE BOARD UNTIL ALL THREE VITAMIN PILLS HAVE APPEARED.

COMMENTS

Jawbreaker is another in the apparently unending series of maze games. It is amusing, but you only need so many of this variety of game, and this one can be mastered without a terrific amount of skill. It is one of the better games for small children. ■

SCORING

Candy Bar	10 points
Red Smiling Face	200 points
Completed Frame	500 points

GAME VARIATIONS

Game 1: One player. Faces move at fast speed.

Game 2: Two players. Faces move at fast speed.

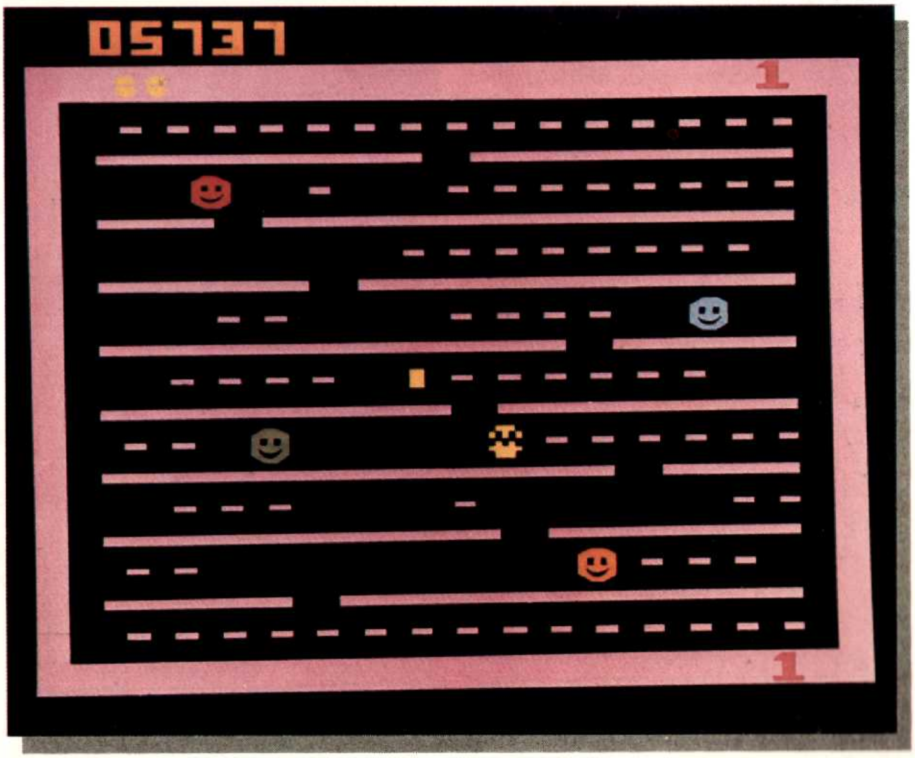
Game 3: One player. Faces move at medium speed.

Game 4: Two players. Faces move at medium speed.

Game 5: One player. Faces move at slow speed.

Game 6: Two players. Faces move at slow speed.

Contrary to video game custom, Game 1 is the hardest. On your first attempt, remember to switch to an easier level so you won't feel so inept.



JOURNEY ESCAPE

FROM
DATA AGE

GAME DESCRIPTION

Despite the fact that the front panel on the package leads you to believe that this is a super futuristic space game, it is in reality a rather silly game about the rock band, Journey.

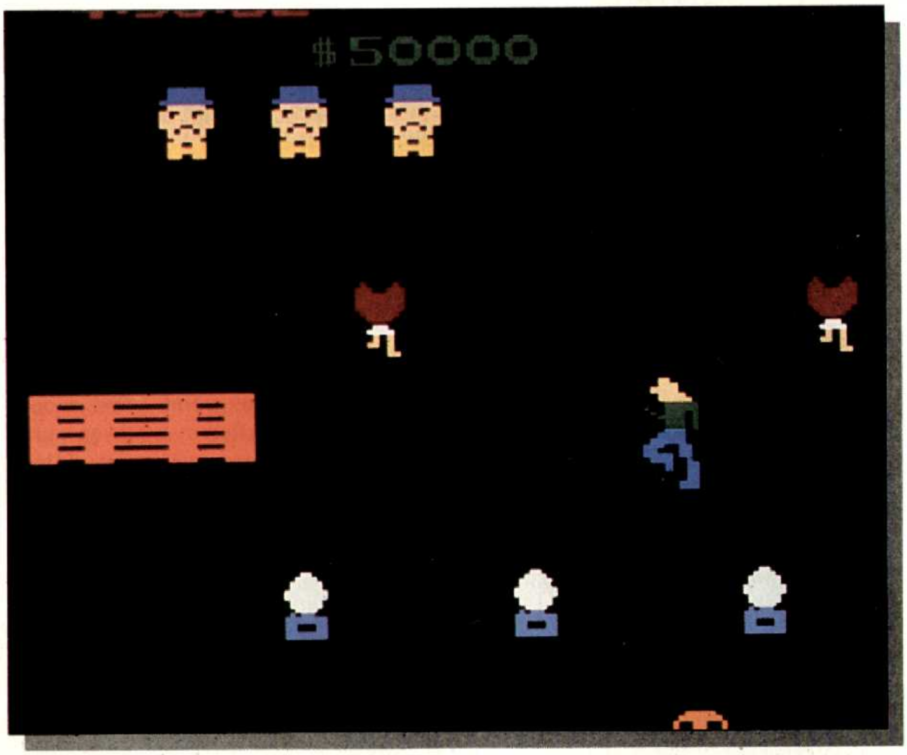
Before the game begins you are treated to a computeried rendition of Journey's song, "Don't Stop Believing." Believe me, it loses a lot in the translation.

After the musical introduction (press the red button to begin play) your objective is to guide the various members of the band (listed by name in the instruction booklet) individually through a crowd of Love-Crazed Groupies, Shifty-Eyed Promoters, Sneaky Photographers, and Stage Barriers. All of these distractions will cost the band member time, money, or both.

In among these bad guys are also Loyal Roadies and Mighty Managers, who make your travel easier. In addition, the Mighty Manager adds $9900 to your score when you are able to reach him in the crowd. Behind the obstacles is a "kaleidoscope of strobing stage lights" which look remarkably like colored snow. I found these very confusing.

The band members are not aimlessly wandering through this hostile crowd, but are headed for their Scarab Escape Vehicle, and must reach it before their time runs out. The game ends when any one of the members fails to make the trip in the allotted time.

When a band member is guided (via your joystick) to the upper portion of the screen, he runs faster. However, this causes the crowd to move by him more quickly and results in his being hit more frequently by them. To speed up any of his maneuvers, press the red button while moving the man. This does not make a terrific difference, but helps slightly.



SCORING

Love-Crazed Groupies	lose $300 and time
Shifty-Eyed Promoters	lose $2000 and time
Sneaky Photographers	lose $600 and time
Stage Barriers	lose time
Loyal Roadies	gain time
Mighty Manager	gain time and $9900
Successful Completion of Trip	$50,000
Any Time Left Over After Trip	$100 per unit of time left over.

After you have successfully helped the five members to the Scarab Escape Vehicle and on to their next concert, you are awarded a bonus $50,000 and a chance to do the whole thing again on a more difficult level. This continues until one of the men fails to escape.

Once your man is pushed down by one of the villains, you can press the red button and help him to spring away and continue his trip. Quick reactions are necessary to steer him among those who would detain him.

GAME VARIATIONS

There is a two-player option for this game. ■

Fast Food

AN ATARI VCS GAME FROM TELSYS

GAME DESCRIPTION

Okay folks, now that we have satisfied the Sports Freaks, the Pac-Maniacs, and the Sci-Fi-Blast-'Em-With-Your-Laser Fiends, we have something for the Junk-Food Junkies among you!

According to the game instructions, the object of the game is to "Get Fatter! Consume as many calories as you can before you get your fill of purple pickles and the snack bar closes." This is accomplished by maneuvering Mr. Mouth (who looks like a set of purple dentures) to catch various forms of junk food which come hurtling toward him.

While this may seem like the dieter's dream, scattered in among the pizzas, cheeseburgers, milkshakes, and french fries are purple pickles, which apparently cause gastric distress; if you swallow six purple pickles, the game ends. Each time a purple pickle is swallowed, it goes to the top of the screen to remind you how many you have consumed. After each 500 calories, one purple pickle is successfully digested and removed from the tally.

The food comes in waves, with the speed at which it flies becoming progressively faster. At the end of each wave, a charming message flashes on the screen: You're Getting Fatter. Fortunately, each new wave does not begin automatically, but waits for you to press the red button on the joystick before starting to "serve" you once again. This gives you the opportunity to make a trip to the bathroom or the refrigerator without giving up the game.

Since each type of food has a different calorie count, it is to your advantage to study the calorie chart and focus on the more fattening items. The first wave moves slowly enough to allow you to catch everything that comes your way, while avoiding the purple pickles. As the food flies faster, however, your strategy changes from offensive to defensive. Eventually, things are moving so quickly that it is all you can do to stay out of the way of the purple pickles. By doing so, you will also certainly swallow gobs of caloric food, thereby boosting your score.

Since the food moves horizontally in rows, more or less, it is easier to position Mr. Mouth in the upper righthand corner of the screen. This gives him the most time to see what is coming and to move out of the way. Since he has an upper limit, it is less likely that he will overshoot his position and get hit by something coming above him.

The drawback of this position is that sometimes he gets cornered there by purple pickles coming at him from the left, and blocking his way below. I found that this happened fairly infrequently, however, and that this position kept Mr. Mouth from becoming distracted by all the goodies elsewhere on the screen and subsequently becoming plastered with purple pickles.

SCORING

Since *Fast Food* is indeed a fantasy game, the calorie counts of the various foods are greatly reduced.

Obviously, at these calorie counts, Mr. Mouth must consume a great deal of food before digesting one nasty purple pickle.

GAME VARIATIONS

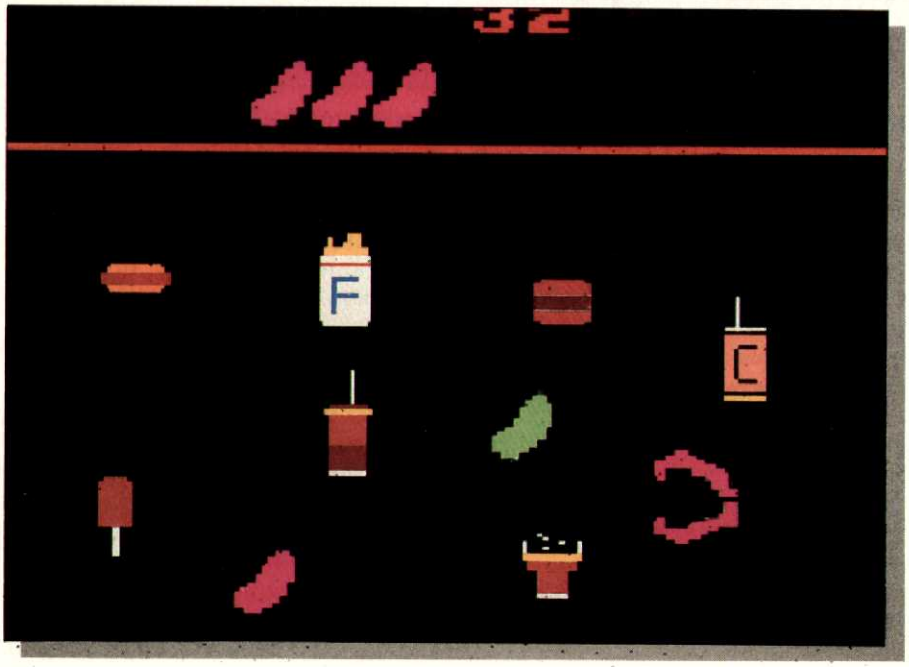
There is a two-player version in which players alternate turns after each wave of food. "Play continues until both players have burped out."

COMMENTS

The game instruction booklet for *Fast Food* gives us no clue as to who designed this game. After looking at it, however, I am convinced that the idea was conceived during a food fight in the high school lunchroom. I found the whole theme of the game rather revolting. (Blasting aliens is less offensive to me than swallowing whole milkshakes, glass and all.) If you can overlook this assault on your sensibilities, the game actually is entertaining, especially since its simplicity makes it less frustrating than some of the more complex games.

I would have preferred the calorie counts of the food to be a little more realistic. Seeing thousands of calories mount up before my eyes might have cured me of junk food forever. ■

FOOD	CALORIES
Cheeseburger	20
Pizza, French Fries	10
Ice Cream Cone	9
Milk Shake, Ice Cream Bar	7
Hamburger	6
Hot Dog, Soda Pop	5
Cola	4
Root Beer	3
Green Pickle	1



SPIDER-MAN

AN ATARI VCS GAME FROM PARKER BROS

GAME DESCRIPTION

Spider-Man has his hands full these days, saving New York City from being blown to bits by the Super Bombs planted atop its skyscrapers. He must scale each building, capturing criminals and defusing time bombs on his way to the Super Bombs.

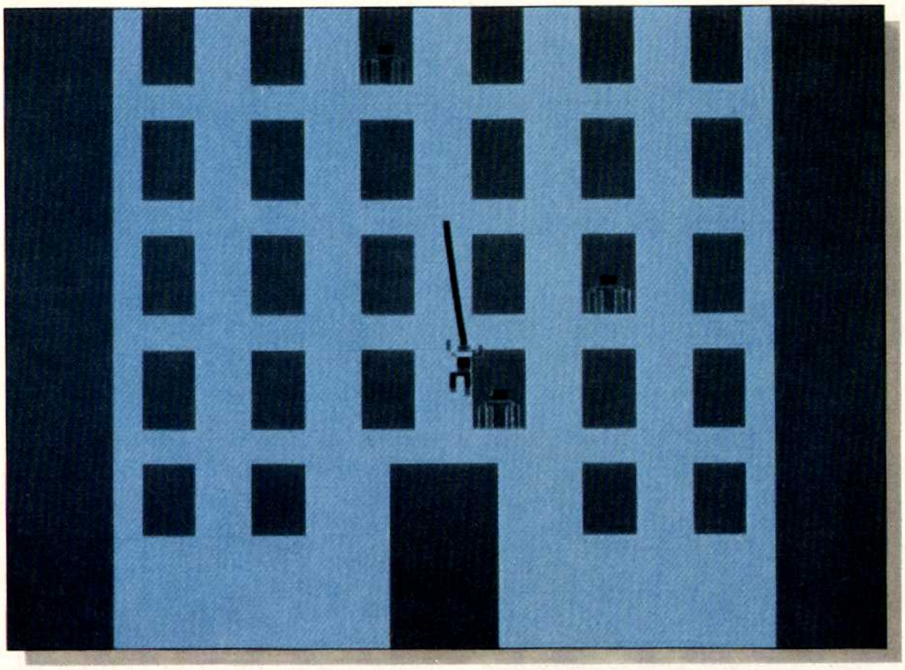
Your joystick controls how and where he shoots his webs and the speed at which he moves up or down them. To shoot a web, you must press the red fire button on the controller and then move the stick in whichever direction you want to move *Spider-Man*. Releasing the fire button quickly results in a short web, while holding it down creates a longer one. Unfortunately, there is a limit to how long the webs can be.

After the web is created, your joystick moves *Spider-Man* up or down on it. Webs can be shot straight or diagonally up and straight down the building. For *Spider-Man* to descend the building in a diagonal manner, he must first shoot a very short web up diagonally, and then lower himself, swinging freely. When he swings to the desired landing spot, you must quickly press and release the fire button to stop him.

The end of a web must land on a solid part of the building; if it lands in the sky or on a window, *Spider-Man* will fall the moment you release the fire button. *Spider-Man* also falls if his web is cut by any one of the criminals or by the Green Goblin (the fiend who has placed all the bombs). The Green Goblin cannot be captured, and since he is also capable of making *Spider-Man* lose his hold on the building, must be avoided.

The primary danger to *Spider-Man* is running out of web fluid. Apparently he has a little reserve of his marvelous liquid (in a hip flask?), and each web drains a bit from his supply. Also, the fluid evaporates with time. Each time *Spider-Man* captures a criminal or defuses a time bomb, he acquires a little more fluid, enabling him to hang around the building longer. Once he runs out of fluid, he falls to the ground whether he is on a web or not. The amount of fluid remaining is shown in the lower corner of the screen.

You are allowed three Spider-Men, with the number remaining shown in the



lower left corner of the screen. After each 10,000 points you are awarded another *Spider-Man*. (Don't hold your breath for this—*Spider-Man* is a difficult game and 10,000 points is a very respectable score.)

Fortunately, *Spider-Man* can shoot a web while in mid-air. If, for any reason other than lack of web fluid, he falls, you must quickly shoot another web to save him. This is not too difficult, assuming he is high enough on the building to allow sufficient time for him to shoot and then catch himself.

As *Spider-Man* scales the building, criminals pop in and out of the windows. His starting position is such that if you move him straight up he will be able to catch any villains showing themselves in the row of windows at his right hand. Don't waste too much time trying to catch the other guys—they are worth only 30 points apiece, and you do not earn much web fluid for catching them.

When *Spider-Man* reaches the top of the building and is beginning to climb the high voltage tower, he will encounter time bombs. These start out black, but turn to red before they explode. Since these bombs are worth 50 or 80 points, depending on their color, *Spider-Man* must defuse as many of them as possible before running out of web fluid. One complication is that if the web crosses any bomb it is immediately cut. To defuse the bomb, you must make any part of *Spider-Man's* body pass over it. Doing this requires some skill in maneuvering him, but is much easier if you approach the bombs in one of the following ways:

Position *Spider-Man* so his web shoots up past the bomb to the next girder on the tower. The web must be *very* close to the bomb, so that *Spider-Man's* hand touches it as he climbs. Very often the bombs are lined up on one side of the tower, so that if he can position himself properly for the first one, he is in line for two or three more as well.

Climb to the top of the high voltage tower immediately, just below the Green Goblin guarding the Super Bomb. Attach the web to the center of the girder on which the Goblin is running—just below, but not touching him. Move *Spider-Man* up the web and then to the next girder down. As he descends the tower, new time bombs will be ready for defusing and he can easily swing down his web and touch them with his feet. If he is in the center of the tower, he can move to the side on which the bombs are placed. They have very short fuses, so *Spider-Man* must move quickly to get his points and extra web fluid.

After *Spider-Man* has defused the Super Bomb, a tricky tune plays and he starts again at the bottom of a new, more difficult building. On each successive building the web fluid is used up more quickly, so that eventually it seems that he runs out before getting started.

Another complication is that once *Spider-Man* has acquired a predetermined number of points (different for each building and each game) the Green Goblin starts the timer on the Super Bomb. If *Spider-Man* is in the high voltage tower, he has a chance to reach the Super Bomb before it explodes. If he is lower than this, forget it; the bomb goes off after only a few seconds. This is another reason why defusing bombs is better than catching criminals; if the timer goes off, you can make the short climb to the top. The number of points allowed before the timer goes off on the first building usually seems to be between 300 and 420. The starting of the timer is indicated by an ominous, low-pitched sound.

When you lose a *Spider-Man*, for whatever reason, the next one starts at the base of the same building.

GAME VARIATIONS

Game 1: Novice Game

Game 2: Novice Game for two players

Game 3: Intermediate Game

Game 4: Intermediate Game for two players

Game 5: Expert Game

Game 6: Expert Game for two players

COMMENTS

Before playing *Spider-Man*, I assumed that it was an easy game to play. It is simple, but not easy. More than almost any other game I have played, *Spider-Man* caused my hand to become cramped and blistered from trying too hard to get the little beast up the building. Improvement definitely came with practice as I became more familiar with the controlling movements; however, I still push the stick too hard in an effort to make him climb a little faster and hold on a little tighter.

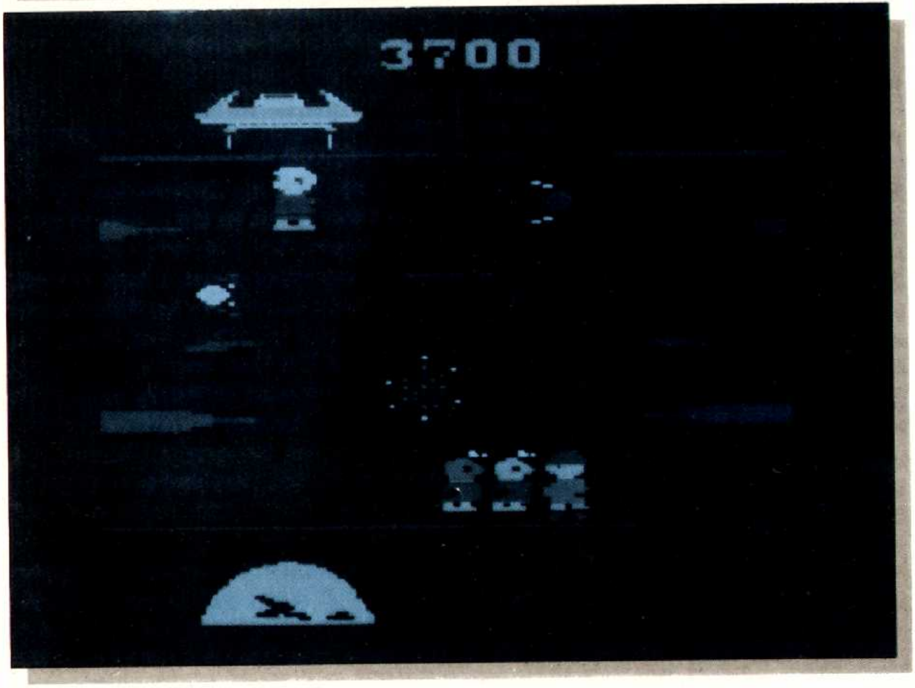
Perhaps the best thing about the game is that it comes in a real, honest-to-goodness, sturdy box. I was able to open it without tearing it to bits, and without the aid of a pocket knife. Thank you, Parker Brothers. ■

SCORING

Capturing a criminal	30 points plus a tiny bit of web fluid
Defusing a black time bomb	50 points plus more web fluid
Defusing a red time bomb	80 points plus still more web fluid
Defusing a Super Bomb	double the points scored on the last building

You can see why it will take you a while to make 10,000.

COSMIC CREEPS™



(TELESYS)

GAME DESCRIPTIONS

The Creeps in this game are not just weirdos with cooties, but beings actively plotting the demise of the Cosmic Kids. The planet on which the Kids live is in a disintegrating orbit and your mission is to rescue as many of them as you can before it falls out of orbit completely, killing the little dears. The Creeps also want to be rescued (who can blame them?) and are trying to make their way to your space station to assume command. When they succeed, it's curtains for you and the Kids.

Before the Kids can be rescued, you must launch an Orbinaut from the planet and direct him up to the space station. The problems facing the Orbinaut are the floating red plasma and the Space Skeeters. If he collides with either of these, he goes flying off out of control, never to be seen again. Then you must release a new Orbinaut, which drops the planet one notch lower in its orbit, bringing it that much closer to doom. The planet will drop a total of 12 notches before falling completely out of orbit.

SCORING

Saving a Kid	1,500 points
Bopping a Creep	100 points

After the Orbinaut successfully makes his way to the space station, the first Kid appears from the lower left corner of the screen and begins zigzagging up to the station. Two Creeps follow so close behind that it is difficult to hit them with your "bopper" without also wasting the Kid. (Actually, he is only bopped back to the dying planet.) If the Kid makes it to the ship, you have an opportunity to launch another kid or to just bop the Creeps that are trying to reach you.

To launch another Kid, press forward on the joystick; this also drops the planet another notch. After the first, the Kids are not necessarily launched with the Creeps in hot pursuit. However, some of the Creeps move faster than the Kids and if they catch up to them, they bop them back to the planet.

There can be no more than two Creeps and one Kid on the screen at any one time.

To continue the game, you must amass 5000 points before the planet sinks from view. If you manage this, another planet appears and you start the whole routine over again at a faster pace. Scoring fewer than 5000 points results in instant termination.

My scores were higher when I didn't try to save any more Kids than were automatically launched at the beginning of each wave. (Sorry, Kids!) The planet sinks a notch after a given period of time and I was able to score higher by bopping the Creeps than by saving the Kids, and thereby lowering the planet faster. This is particularly true if one of the Kids gets bopped by me or one other Creep.

COMMENTS

This is a very simple game without too many confusing intricacies. It is amusing, but depending upon your skill could get dull after a while. The first wave of Creeps seems to move slower and slower, and is, therefore, very boring. Since there is only one game and one difficulty level for *Cosmic Creeps*, you must plod through the easier stages of the game every time you play. ■

TRON

DEADLY • DISCS

(M NETWORK)

GAME DESCRIPTION

You *have* seen *Tron*, haven't you? In this game you get to assist Tron in his fight to the death, directing him as he throws his trusty disc at his opponents. The bad news for Tron is that while the movie version of the game is one-on-one, the video version is three-on-one. Not only that, but they are replaced with new warriors every ten seconds.

EACH TIME TRON IS HIT HE WEAKENS AND FADES IN COLOR.

Launch a disc by depressing the red button on your joystick; its direction will be controlled by the position of the joystick. The disc can also be recalled by pressing the red button a second time. The disc is not harmful to your opponents after rebounding off a wall.

If you destroy all of your opponents before the first one hit is replaced, you move on to the next scoring level. The warriors on each successive level are worth more points when hit, but are also more skillful in their attack.

Each time Tron is hit, he weakens and fades in color. He may be hit a maximum of five times before becoming "de-rezzed"—Tron lingo for dead. Whenever you progress to the next scoring level, however, he becomes one step stronger and darker.

Tron's opponents enter the arena through doors which Tron can lock open by striking them with his disc. This is most easily done during the pause between scoring levels. Once a door is locked open Tron can enter and be teleported across to the other side of the arena. This action hinders the opponents' shooting for about two seconds. It is, therefore, a good evasive tactic; use the two seconds to fire off a disc and eliminate one opponent. Lure the attackers close to you before being teleported; reappearing in the midst of a circle of enemies on the other side of the screen is not good for Tron.

While it is easy to be trapped in the corners, try beginning each scoring level in a corner. This gives you the opportunity to fire directly horizontally or vertically to hit an opponent as he emerges from the door. Move away from the corner immediately after firing.

GAME VARIATIONS

Tron Deadly Discs has no game variations or two-player version.

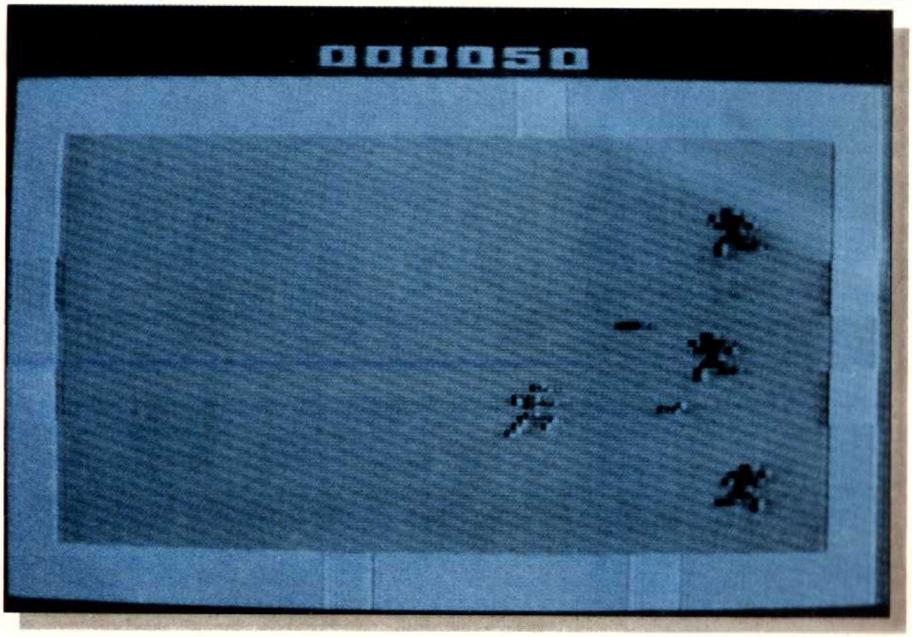
COMMENTS

Good game. It's challenging but not impossible for the novice. Also, when playing *Tron Deadly Discs*, the more expert player can quickly move through the easier levels, avoiding the boring necessity of playing for ten minutes at a novice level before getting to the one minute of challenge as is the case for most video games. ■

SCORING

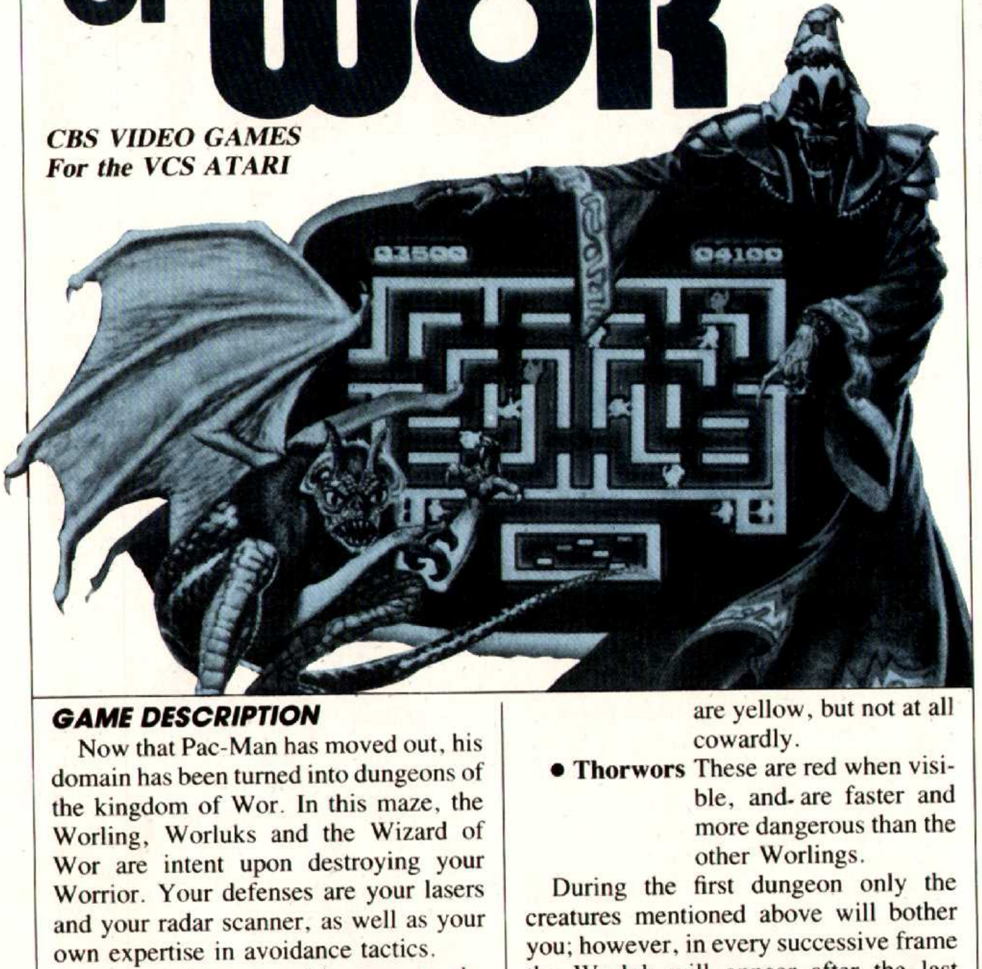
There are eight levels of warriors, with the following point values for a hit:

Level 1	10 points
Level 2	20 points
Level 3	40 points
Level 4	75 points
Level 5	150 points
Level 6	300 points
Level 7	500 points
Level 8	800 points



WIZARD OF WOR™

CBS VIDEO GAMES
For the VCS ATARI



GAME DESCRIPTION

Now that Pac-Man has moved out, his domain has been turned into dungeons of the kingdom of Wor. In this maze, the Worling, Worluks and the Wizard of Wor are intent upon destroying your Worrior. Your defenses are your lasers and your radar scanner, as well as your own expertise in avoidance tactics.

The Worriors are waiting to enter the dungeon from the lower right corner. You have 20 seconds in which to move the first man out into the maze at an opportune moment. If you wait too long, he will automatically be ejected into the fray—and perhaps into the waiting jaws of a Worling.

There are three types of Worlings:

- **Burwors** These blue Worlings move around the dungeon at the beginning of each screen. There are six Burwors per dungeon, and they are visible as long as they remain alive.
- **Garwors** The Garwors are invisible most of the time, but do materialize for a few seconds at a time. They are yellow, but not at all cowardly.
- **Thorwors** These are red when visible, and are faster and more dangerous than the other Worlings.

During the first dungeon only the creatures mentioned above will bother you; however, in every successive frame the Worluk will appear after the last Worling is shot. If you succeed in shooting the Worluk, the point values for the Worlings shot in the next dungeon are doubled. The Worluk's main motive seems to be escape, but he can also destroy you if you get in his line of fire.

The Wizard of Wor himself may enter the dungeon after the Worluk is shot or escapes. He is particularly hard to hit since he jumps randomly around the maze; you cannot anticipate where he will go next. You are awarded the title Worlord if you can kill the Wizard before he gets you with his lightning bolts.

To assist you in keeping track of the invisible Worlings, you are equipped with a radar scanner at the bottom of the screen. The blips on this indicate the position of all the creatures in the dungeon, except your Worrior. Learn to use the scanner, as it is the only way to remain alive when the going gets rough.

On each side of the screen there are escape doors which open and close every three seconds, enabling you to beam to the opposite side. Do not hang around these openings; the Worlings use them as well, sometimes surprising you fatally.

Your Worrior can fire only one bullet at a time (the bullet must hit a Worling or a wall before a new one can be fired). Try not to fire indiscriminately, since you may find that a bullet is not available when you really need it.

There are times, however, when firing repeatedly is to your advantage. In the first screen there is a corridor which runs the entire length of the maze, along the top. If you position yourself in an upper corner of the screen and fire across the top of the maze, you can hit many Worlings. However, you must keep an eye on the scanner to be sure none approaches you from below.

In the second screen there is a short blind alley in the extreme lower center of the screen. Move into this alley and just tap the joystick to turn around. If possible, fire continuously from this vantage point, otherwise just fire when necessary. In any case, you will be protected from behind, reducing the danger of being shot. (The bad news is that you may also find yourself trapped, if a Worling does get a successful shot off.)

GAME VARIATIONS

There is a two-player version of *Wizard of Wor*, in which players may either work together to destroy the Worlings, or fight against each other.

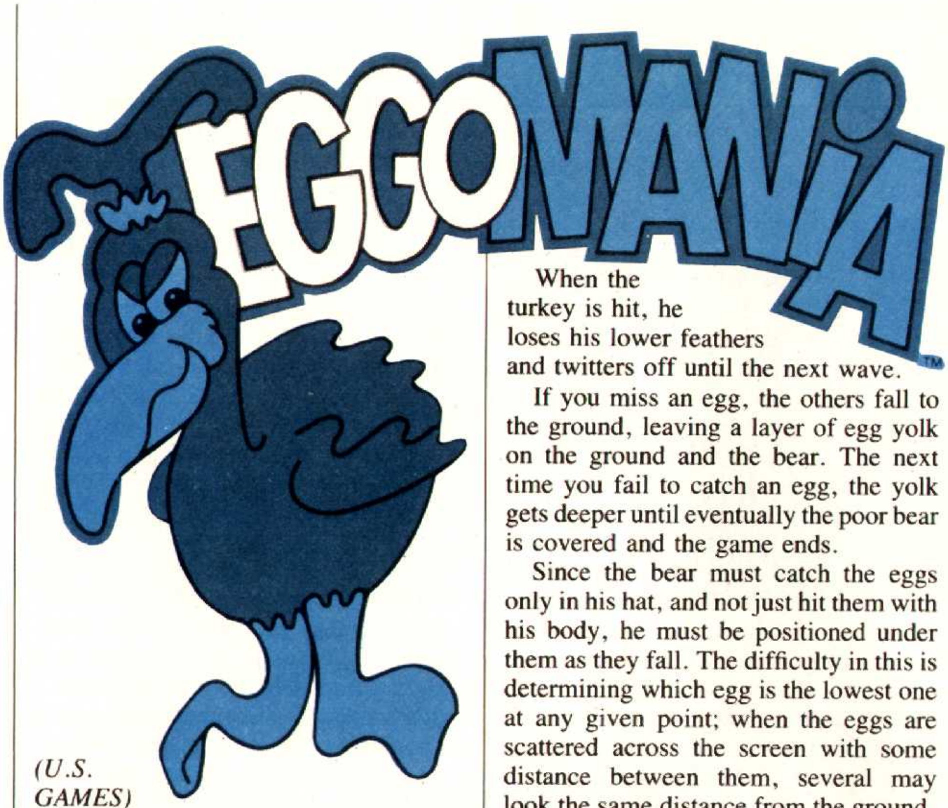
COMMENTS

Wizard of Wor is a challenging maze-type game which should hold your attention. The two-player version also adds versatility. Don't worry—it's not quite as scary as the package would indicate! ■

SCORING

Burwors	100 points
Garwors	200 points
Thorwors	500 points
Worluk	1000 points plus double score in the next dungeon
Wizard of Wor	2500 points
Worriors (two-player game)	1000 points

EGGOMANIA™



(*U.S. GAMES*)

GAME DESCRIPTION

Eggomania is similar to Activision's *Kaboom!* with a few new twists. In this game, a ridiculous looking turkey drops eggs on an equally ridiculous blue bear, who trys to catch the eggs in his hat.

Since you are on the bear's team, you move him back and forth across the bottom of the screen by means of the paddle controller. If you successfully catch an entire wave of eggs, you are given the chance to fire eggs back at the turkey while he does the "Eggomania Waltz." When the turkey is hit, he loses his lower feathers and twitters off until the next wave.

If you miss an egg, the others fall to the ground, leaving a layer of egg yolk on the ground and the bear. The next time you fail to catch an egg, the yolk gets deeper until eventually the poor bear is covered and the game ends.

Since the bear must catch the eggs only in his hat, and not just hit them with his body, he must be positioned under them as they fall. The difficulty in this is determining which egg is the lowest one at any given point; when the eggs are scattered across the screen with some distance between them, several may look the same distance from the ground. If you choose the wrong one to go after first, the other egg breaks immediately, and the wave ends with egg yolk all over the bear. The bear's hat is fairly wide, giving him some horizontal leeway in positioning, and making it possible to catch several eggs at a time with only slight movement.

Try to move the bear as little as possible, rather than running all over the screen. Follow the pattern of the eggs, somewhat like a connect-the-dots picture. Your timing must be exact on this, catching the eggs before they fall below the rim of the hat.

Since hitting the turkey with the collected eggs results not only in bonus points but also a reduction in the accumulation of egg yolk at the bottom of the screen, it is important that you have a fairly good aim. Unfortunately, hitting him is not as easy as it would seem; many times I was sure I had scored a direct hit, only to have him waltz on by. Do not try to follow him across the screen, but rather wait for him to approach you, firing just before he is directly over head.

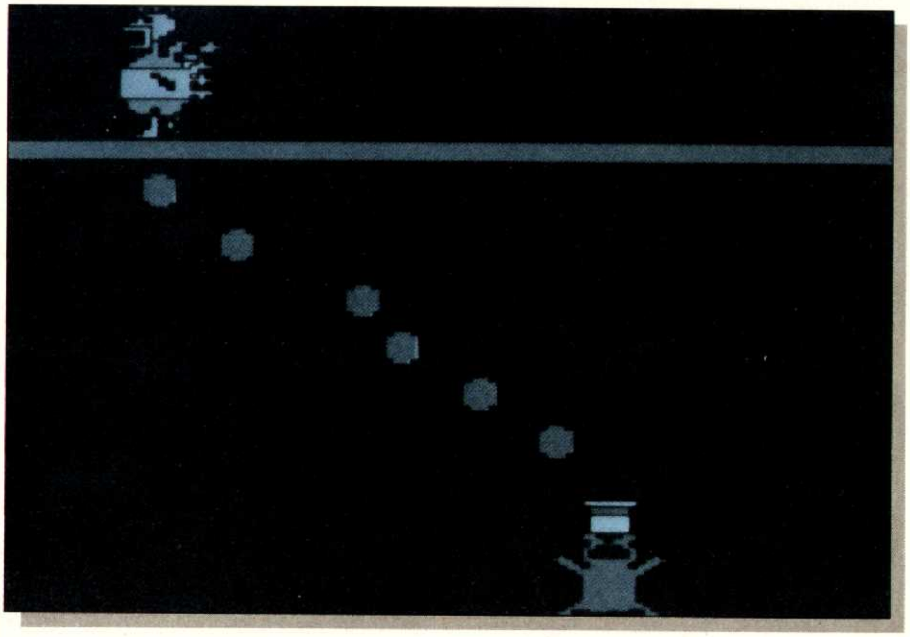
The speed at which the eggs are dropped increases with the successful completion of each wave. Therefore, you may find it to your advantage to miss an egg in the earlier, easier waves, so that you can get another chance to collect some points at a slower pace. You can do this several times, finally completing the wave and getting the chance to remove most of the egg yolk by hitting the turkey. The danger in this, of course, is that if you muff your chance you must continue to the next wave with no reduction in the amount of egg yolk on the ground.

GAME VARIATIONS

This cartridge includes one-, two-, three-, and four-player versions of *Eggomania*.

COMMENTS

This is a cute, but not spectacular game, with a catchy tune thrown in. Since many video games are simply variations on a theme, the extra effects are what make them fun. *Eggomania* gets good marks for making me smile. ■



SCORING

The difficulty levels are as follows:

Level	Number of eggs	Speed	Points per egg
1	20	1	14
2	40	1	18
3	60	1	22
4	40	2	26
5	80	2	30
6	60	3	34
7	80	3	38
8	80	4	42
9	80	5	46
10	80	6	50

RESCUE TERRA I

(VENTUREVISION)

GAME DESCRIPTION

In case you did not realize it, Terra I is Earth's primary supplier of the Zenbar crystals, from which 72% of our energy is derived. Controlling Terra I and its planetary electro-mechanical equipment (including the robot-driven defense system) is a super sophisticated computer system—I am not certain if this system is manufactured by Atari.

The computer system is malfunctioning and has turned over all Zenbar crystal shipments to space pirates, directing all its defenses to protect the pirates.

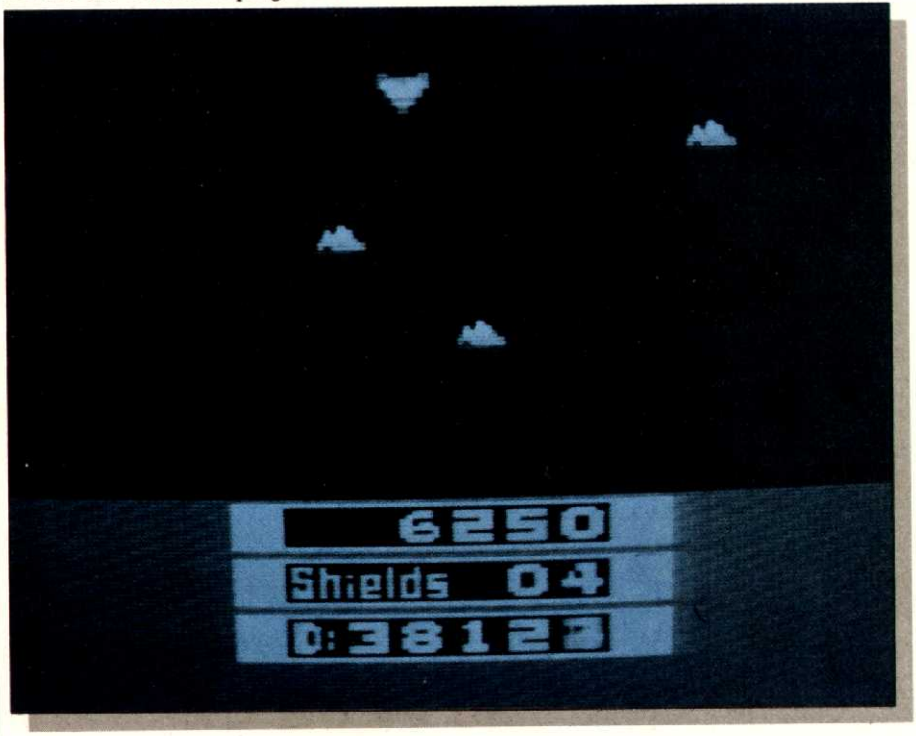
Since we are quite a distance from Terra I (39,999 light years) you will need the F-711 Starwarrior to cover the distance and destroy the pirates and defense systems.

On board the Starwarrior is a computerized (More computers! Fortunately these can be trusted, at least for the time being) navigational system which displays the distance remaining to Terra I, the number of shields left on your ship, and your score.

At 39,999 light years from Terra I there are heavy meteor storms. The more benign of these move in a strictly vertical pattern, approaching from the bottom of the screen. When they are moving slowly, you can afford to be daring and move around the screen wiping each one out individually. However, when they start coming quickly, keeping your ship more or less stationary and clearing out those approaching from directly below you will result in more safety while still clearing the wave eventually. Once the meteors start moving in a diagonal direction they become much more dangerous. Watch out for the ones that approach from an angle and wipe out your ship. Move out of the way—fast!

At 29,999 light years the space pirates arrive on the screen. They man slow cargo ships which fly a straight course and fire lasers. They are not hard to hit; simply fire and move out of the way before their lasers hit you. The bad news about the cargo ships is that they have fighter saucer escorts which move quickly and erratically, firing lasers. Mostly they crash into your ship; they don't really need the lasers.

The best way to handle the situation is to start the wave at the top of the screen. Clear out as many meteors and cargo ships as you can while trying to hit or evade the saucers that appear. You must aim in front of the saucer, in its path; it moves so quickly that you will miss often before you learn the proper distance. As the saucer zigzags across the screen, it will eventually get quite close to you. At this point (assuming you have not hit it already) it is too late to try to destroy it; move *down* the screen. Do not try to get ahead of it or move horizontally out of its way. The patterns are such that it will effectively cover most of the screen above it. Don't worry, if any of the various dangers you encounter slip by you without being destroyed, they will be tacked on to the end of the wave.



AT 29,999 LIGHT YEARS THE SPACE PIRATES ARRIVE ON THE SCREEN.

If you are hit at any point during the wave, you keep the points you have gained, but in addition to losing a shield (you start with five) you must go back to the beginning of that wave. The numbers shown on your control panel indicating your distance from Terra I are automatically set back to indicate the beginning of the wave, and you will have made no progress toward your objective.

At 19,999 light years the robot interceptors arrive. (By now the meteors and space pirates are all gone.) Your perspective changes, also, giving you a side view of your ship; before it was viewed from the top. You now fire horizontally. The robot interceptors come in two vari-

SCORING

Meteor	125 points
Cargo Ship	225 points
Fighter Saucer	275 points
Robot Interceptor	425 points
Fish Force Field	650 points

After every 10,000 points you are awarded another shield.

GAME VARIATIONS

Game 1: Entire Mission
Game 2: Meteor storm only
Game 3: Space pirates only
Game 4: Robot interceptors only
Game 5: Fish force fields only
Game 6: Game 1 for two players
Game 7: Game 2 for two players
Game 8: Game 3 for two players
Game 9: Game 4 for two players
Game 10: Game 5 for two players

eties, both difficult to hit because of their low profile. For the most part, their main threat to your ship is collision.

Do not try to hit them as they come at you; slip down below them to move behind and fire at them from the rear. This way, if you miss, at least you can't be crashed. While all this is going on, there is another robot interceptor flying above your field of flight, dropping photon bombs on your ship. This fiend cannot be destroyed; simply avoid being hit by him. When you have destroyed all the other robot interceptors, this one will go away also.

The final danger to your ship comes at 9999 light years in the form of fish force fields (yes, fish). These are horizontal bars which destroy your shield on contact. The only way to clear them out is to get close to the bar and fire at the "fish" which hangs down at one end. Each force field has its fish on the opposite end from the field which went before it. This means that you must fire and then immediately reverse the direction of your ship and fire again.

Actually, rather than just hitting the fire button once, you are better off keeping it depressed throughout this whole episode. You can then concentrate on just getting your ship facing the right direction at the right time. As these force fields increase in the speed at which they descend on your ship, you may find it helpful to start the wave with your ship at the very top of the screen and gradually move it down as you are firing and changing directions. This is difficult, but otherwise you may get hit before you obliterate the field.

COMMENTS

Rescue Terra I is a challenging game, and if you do acquire a measure of expertise, you can enter Venturevision's *Rescue Terra I* Contest and possibly win a trip to beautiful downtown Dallas and $5000. Once you get to Terra I you are eligible to enter; the details are included in the game package. But hurry, contest ends December 31, 1983. ■

MINES OF MINOS™

(COMMAND)

GAME DESCRIPTION

The Mines of Minos are a series of underground mazes which, in times past, have been managed by a gang of robots. Now, however, the mines have been taken over by aliens who have dismembered all but one of the robots. Your remaining robot must frantically search the mine for pieces of his buddies while blowing up the aliens with time bombs. Complicating his not-so-peaceful life is the fact the mines are quickly filling with water, which slows him down and defuses his time bombs.

Since the aliens have a history of violent behavior, your robot's primary objective must be to avoid them. The first monsters you will encounter move no more quickly than the robot and can be easily dispatched by dropping time bombs in their paths. Only one bomb at a time can be dropped, and each one can blow up just one alien. When two aliens are following closely, it is sometimes necessary to drop a second bomb immediately after the first has destroyed the closest alien.

The bombs remain active for only a few seconds after you drop them. If you drop one inadvertently, stay close to it for a while until it stops buzzing and disappears. If you simply proceed on your journey, you might find yourself dangerously close to the aliens and unarmed until the bomb disappears or is exploded. You can step over your time bombs with no ill effects, which is handy when you are trying to position one between yourself and the oncoming alien.

At the sides of the screen are several horizontal tunnels which enable your robot to make a quick getaway to the other side of the maze. If the red button

SCORING

Destroying an alien	20 points
Picking up a robot part .	70 points
Depositing a robot part .	70 points

Your power level is increased by one unit for each 1000 points.

GAME VARIATIONS

Game 1: Basic game.
Game 2: Basic game for two players.
Game 3: Six robot pieces needed to complete one spare robot.
Game 4: Game 3 for two players.
Game 5: No flooding.
Game 6: Game 5 for two players.
Game 7: Two pieces needed to complete one spare robot.
Game 8: Game 7 for two players.
Game 9: Bombs can be dropped in flood.
Game 10: Game 9 for two players.
Game 11: The maze is invisible, except when a bomb explodes. Bombs can be dropped in the flooded section of the maze.
Game 12: Game 11 for two players.

on your joystick is depressed as you enter the tunnel you will find yourself in the next mine level.

Once your robot locates a piece of one of his colleagues, he must then carry it to the center of the top or bottom of the mine level. He must collect three pieces in order to make a new robot; these are held in reserve in case number one gets destroyed by the aliens.

The first robot piece in the first level is located in the upper third of the maze, in the center of the screen. You should move there immediately, killing as few aliens as you can without endangering your robot. This will keep your score low so that you may be able to assemble one extra robot before the really mean monsters appear. (Their entrance is triggered by a high score.) Take the robot piece down to the bottom of the maze and leave it there.

The next robot piece is also in the top portion of the maze, but it should not be under water yet. Quickly go up and retrieve it, this time leaving it at the top of the maze, under the water. You will have to clear the area of all monsters before you enter the flood, since you move slowly and are unarmed during the aquatic section of your journey.

The next robot piece is in the lower section of the maze, and fairly easy to retrieve since it is not touched by the flood. This sequence of moves will assure that you will be under water only momentarily. If you drop the robot pieces at the wrong end of the maze, you may find your next piece more difficult to retrieve.

At this point, you may want to go to the top of the maze again to try for another piece; however, it will probably be under water. This does not make it impossible to pick up, simply more dangerous.

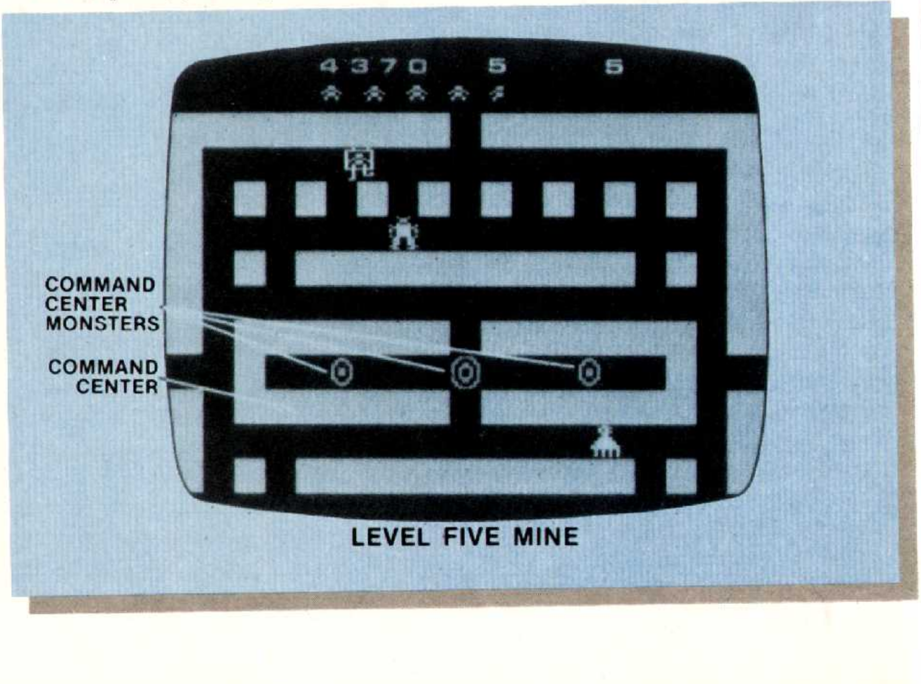
If you decide not to go for the underwater piece, your job is to kill as many aliens as you can to get your energy level up to 2. (This happens at 1000 points.) The aliens will be considerably more agressive, and you will have to keep a constant watch to keep from being attacked.

Do not move on to the next mine level until you have progressed to the second energy level. When the mine level exceeds your energy level, it takes more than one bomb to destroy an alien, a potentially fatal situation. Half-dead aliens are no longer dangerous once the sounds of the bomb explosion cease.

There are five levels in the mine, with the fifth one containing the Command Center for the aliens. You must destroy this Command Center by ramming its inhabitants with your robot (sacrificing the robot) to win the game.

COMMENTS

The basic game of *Mines of Minos* is surprisingly difficult. Your robot *just* fits through the maze, so you must be exact when directing him. The aliens are persistent, and just getting to the second level is a reasonable challenge. Starting with one of the less difficult games (5,7, or 9) is recommended. Usually, games that can be "won" have a limited appeal; once you master them there is no more challenge. However, this one will take you long enough to conquer that you will get your money's worth before it becomes too easy. ■



LEVEL FIVE MINE

BERMUDA TRIANGLE

(DATA AGE)

GAME DESCRIPTION

In *Bermuda Triangle*, your mini-sub is gliding over a seemingly deserted underwater city, collecting artifacts for the research ship cruising above.

The artifacts are: Tachyon Modular Units, Water Dissociation Modules, and Korbinian Cubes. These all have tricky descriptions in the instruction booklet, but are identical in game characteristics and point value.

You can carry only one artifact at a time. A nifty little sound indicates that you have a treasure in your possession. A different sound indicates that the research ship has accepted it.

Hindering you in your quest for the artifacts are giant squid, man-eating sharks, and aquatic drones. These will all steal your artifacts from you if you collide with them. A collision also causes you to lose points. Additionally, explosive mines are sprinkled among the other aquatic villains, destroying your mini-sub on impact. These creatures and bombs can be blasted away, but will always be replaced by more. Since they can come from either side of the screen, try to stay more or less in the middle of the screen. By moving the joystick to the right, you can speed up your sub, a valuable move when maneuvering it through a herd of enemies.

Research ships and enemy ships cruise on the surface, alternately, moving from left to right across the screen. If you mistakenly make contact with the enemy ship, your mini-sub will be destroyed.

Bermuda Bombs sit on the ocean floor, exploding instantly if you try to pick them up. They look a lot like the treasures, so familiarize yourself with the pictures in the instruction booklet before you start to play the game.

When you reach 10,000 points, you are awarded another mini-sub (maximum of three at any one time).

At this point in the game a new problem presents itself. A deadly laser blast comes up from the city to destroy the ships on the surface. If you come in contact with the blast, it's all over for that sub. This is when the game gets difficult. When delivering the artifacts to the research ship, try not to remain still for more than a split second, but move away quickly. Try docking with the ship at the extreme right edge of the screen and then moving quickly backwards as soon as the treasure is accepted. This is by no means foolproof, but may increase the odds of escaping in your favor.

COMMENTS

The package insert telling the story of the Bermuda Triangle, and the game description booklet are very well done and imaginative. I was anticipating an equally mysterious and clever game, but was disappointed. The game is essentially a simple variation of the space game, but with complicated directions—certainly not a *bad* game, but not as good as I had hoped. ■

SCORING

Shooting killer shark, giant squid, or aquatic drone	50 points
Destroying explosive mine	200 points
Delivering artifact to research ship	600 points
Colliding with shark, squid or drone	−100 points

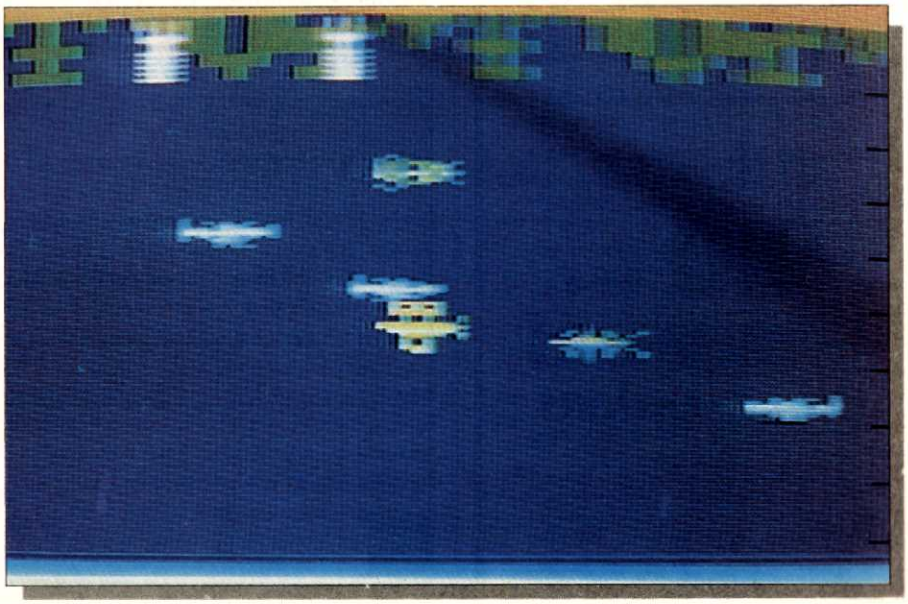
GAME VARIATIONS

Game 1: One player. Laser blast appears after 10,000 points.

Game 2: Two players. Laser blast appears after 10,000 points.

Game 3: One player. Laser blast is present from start of game.

Game 4: Two players. Laser blast is present from start of game.



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CIRCUS ATARI

(ATARI)

GAME DESCRIPTION

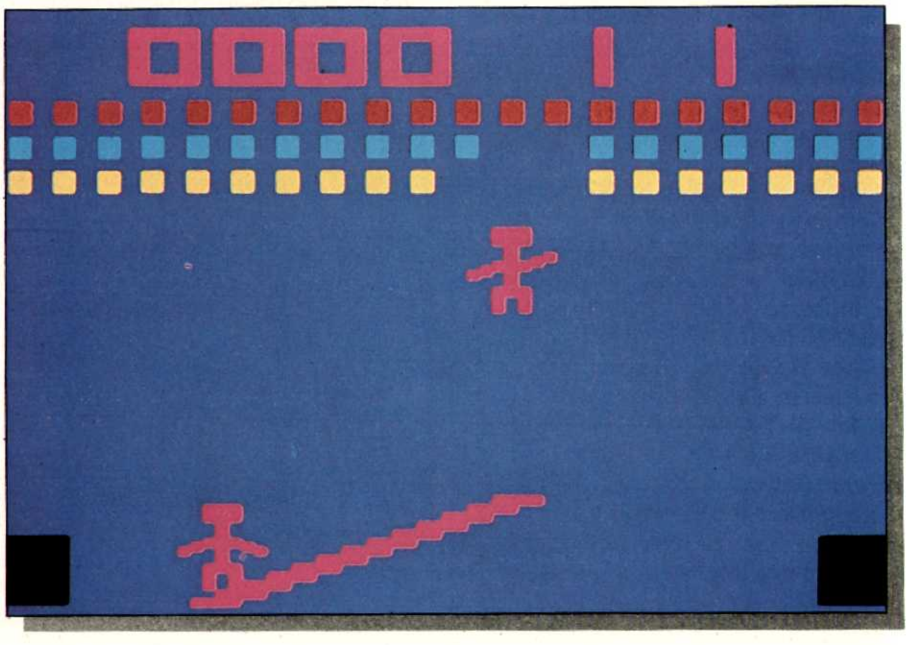
Circus Atari consists of two kamikaze clowns, a teeter-totter and three rows of balloons above them. The primary object of the game is to catch the airborne clown on the high end of the teeter-totter, thereby launching the other clown. Your secondary objective is to break the balloons with the bouncing clowns (apparently they have pointed heads) to score points. If the teeter-totter fails to catch the bouncing clown, he splatters on the ground, pathetically wiggling his broken body.

While this seems fairly simple to accomplish, it is impossible to score more than a few points in the first three or four games. This is due not only to the difficulty of the game, but also to the fact that the players are often rendered helpless with laughter from watching the dying clowns.

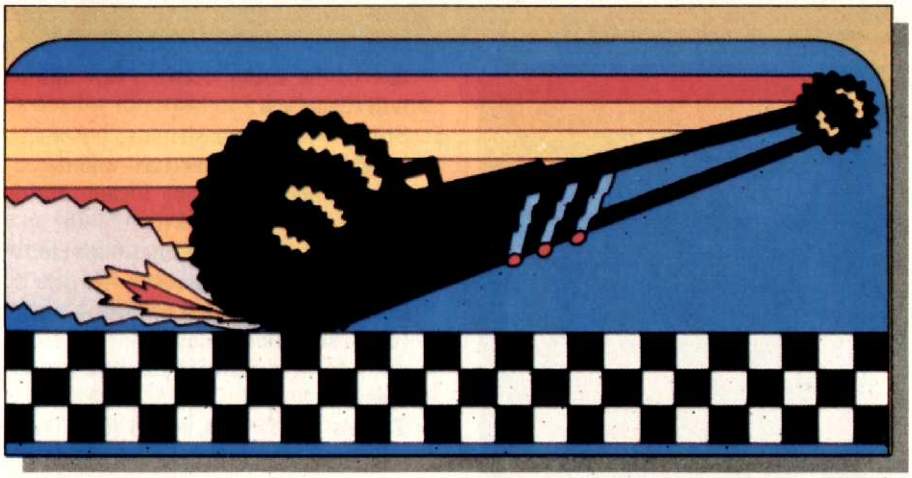
This game takes a fair amount of hand-eye coordination, and keeping a light touch on the paddle seems to enable the player to be a little more exact in his movements. Catching the clown on the uppermost tip of the teeter-totter results in a higher bounce and more broken balloons; however, it is also extremely easy to miss the poor fellow altogether. Apologizing to the splattered clown does not improve one's score.

GAME VARIATION

There is a total of eight variations to the basic game, as well as a higher difficulty level for each, which increases the speed of the clowns' rebound. ■



DRAGSTER



(ACTIVISION)

GAME DESCRIPTION

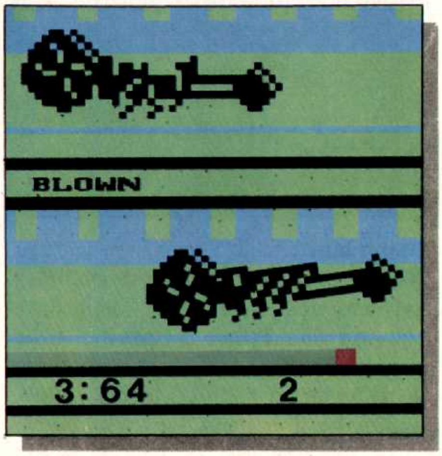
Dragster is a realistic racecar game in which you can race against an opponent or just the clock. There are two variations of the game on the cartridge.

Your first attempts at *Dragster* will undoubtedly result in utter frustration. You read the directions, plug in the joystick, get ready, set and Boom!—you just blew your engine. And you do it again the second time you try. And the third. And the fourth. Maybe by the fifth try you can get your car a few feet down the track before destroying it.

The joystick in this game is a gear shift lever and the red button is the accelerator. The idea is to give the car some gas, let up a little, shift gears, and accelerate to the red line on the tach, where you let up a little and shift again. It takes coordination and a gentle touch.

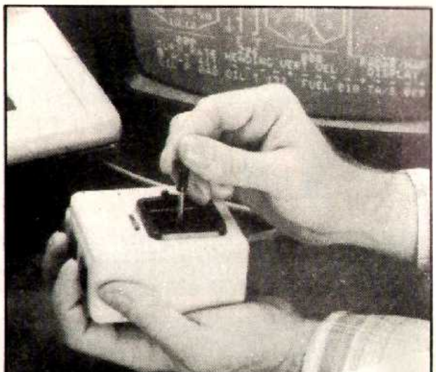
Completing the track in anything less than 6.20 is supposed to be good; your first time will be closer to 25 seconds as your dragster (which actually looks more like some sort of insect) crawls along, fearful of blowing its engine to smithereens. To achieve a decent time, you must accelerate well into the red area on the tach (which is displayed on the screen), let up for an instant, and shift rapidly (accomplished by moving the joystick to the left and releasing).

Keep the tach in the red as much as possible without going too far for too long and blowing the engine. Lightly tapping the joystick to the left when in fourth gear "pops the clutch," resulting in a more rapid acceleration. Do it only twice when building speed in fourth gear; four times will blow the engine.



Aside from getting the feel for how far into the red you can go before destroying your car, starting at the gun is the most significant factor in determining your final time. If you jump the gun, the screen reads "early" and your opponent has only to cross the finish line to win. I find that if I immediately gun the engine and shift when the count reaches 00:02, those 2/10ths of a second are taken up in my reaction time, getting me off the line at the earliest legal moment. Your reactions may be faster than mine, so experiment.

Once you master it, *Dragster* is a terrific game to pull out when demonstrating your superior ability to the Atari neophyte. He will never get across the finish line, and you need not share your secrets of success. ■



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RIDDLE OF THE SPHINX

(IMAGIC)

GAME DESCRIPTION

Here is a change from the shoot-'em-up video games. *Riddle Of The Sphinx* actually uses more of your brain than your coordination (although working the two joysticks at once does demand some skill). This is one game in which you really *must* read the instruction booklet. In fact, settle down with a cup of coffee . . . it's going to take you a while.

The riddle involved here actually has little do with the Sphinx, but more with the Egyptian gods, Ra, Isis, Anubis, and the Phoenix. You are directing the Pharoah's son, Prince, (tricky name) through the desert as he collects treasures and offers them to the various dieties. Along the way he meets thieves and nomads, camels and scorpions, as well as Anubis and Isis.

The thieves are obviously wicked, and try to wound Prince and steal his treasures. Fortunately, their weapons are no more sophisticated than his: rocks. The difference is mainly in the effects of the rocks; Prince merely sustains wounds, but the thieves disappear completely. The rocks also make the evil scorpions disappear. (Scorpions are not interested in Prince's treasures, but are intent upon stinging him.)

The nomad traders are sometimes good and sometimes bad, depending mostly on what Prince is carrying. If he is carrying little, bartering with them will result in an addition to his collection. On the other hand, they will relieve him of some of his booty if he is too heavily weighted. With this in mind, use caution when approaching these traders.

Camels do not get involved at all with Prince, except to force him to make detours around them as he covers ground.

The god Isis, the goddess of fertility and motherhood, is good news in the desert, healing Prince of his wounds and quenching his thirst. Sometimes she also gives him a gift, as well (No, not a baby!). She will, on occasion, ignore him but will never do him harm.

Anubis, the god of the land of the dead, is bad news. He seriously wounds Prince on contact, and cannot be killed with rocks. In fact, hurling rocks at him (or at Isis) results in a significant loss of "inner strength points." More about that later.

Objects Prince may barter for or earn are:

1. **Shield.** This protects Prince from a few of the rocks. After a few hits it will disappear.
2. **Staff.** Not as in assistants, but as in walking stick. This has undefined powers and is hard to locate. Hold onto it once you find it.
3. **Jug.** This is full of some marvelous liquid which quenches Prince's thirst. He may carry it for a long ways (until someone steals it), but may drink from it only once before it disappears.
4. **Tannis Leaf.** This useful little herb will heal all of Prince's wounds at any one time. It also disappears after it is used once.
5. **Spade.** Use this shovel to dig for other treasures. It disappears only after another object or treasure is found.

Even though all of the above objects may be used only once, Prince may reacquire any of them later on in the adventure, perhaps in a different manner.

Treasures which Prince will use on his journey and ultimately offer to the god Ra are:

1. **Disk of Ra** which will heal all of Prince's wounds without deteriorating or being consumed.
2. **Goblet,** which will quench Prince's thirst for as long as he keeps it.
3. **Necklace,** which will protect Prince from rocks and scorpions for as long as he keeps it.
4. **Sceptre,** which will speed Prince on his way; wounds and thirst cannot slow him down while he holds this.

All of the above treasures can be kept until stolen. They are obviously very valuable to Prince, so he must protect them.

Artifacts and other mysterious treasures found along the way include a scroll, a crown, an ankh, a key, and three stone tablets. These artifacts and treasures have value, but we are not told in the instruction booklet exactly what it is.

Any items which Prince has in his possession are shown at the bottom of the screen. At first it is very difficult to identify the particular group of dots illustrating an item; this is one of the limitations inherent in the video game. After you have played for a while, you will no longer have to refer to the instruction booklet to determine if that thing you just picked up is the shield or the Disk of Ra. Only twelve items at a time may be carried by Prince. He may want to drop some of the less valuable ones to make room for the treasures as the game progresses.

All objects, treasures, and artifacts are controlled by the right joystick. Prince can hold only one object at a time, and that particular item is indicated by a black box covering it. You must press the red button to employ some of the items; others are put to use simply when Prince holds them.

Along the way, Prince encounters various monuments and temples. Each of these has a cryptic message inscribed on it, subtly indicating what the appropriate offering is. If Prince makes the proper offering, it is consumed and perhaps replaced by a more valuable item. If he offers the wrong item, he loses inner strength points.

The monuments include the Pyramids, the Phoenix, the Temple of Isis, the Temple of Anubis, the Sphinx, and the Temple of Ra. At the final monument, the Temple of Ra, if the treasures are accepted, great numbers of inner strength points are awarded and the quest is ended.

Actually, it's not quite that simple (simple?). Along the way, thirst will slow Prince down, as will wounds. The latter will eventually result in Prince's death, ending the quest prematurely. Prince must be constantly aware of his wound and thirst scores, displayed on the screen with the proper combination of Black/White Color lever and right difficulty switch positions. Also displayed with the proper combinations of these switches are the time elapsed and the inner strength score.

Okay, now about this inner strength stuff: One of the Prince's objectives is to gain as many of these points as possible by making the proper offerings and hitting scorpions and thieves with rocks. His inner strength score suffers if he clobbers one of the helpless nomad traders with a rock (even if the creep does take one of his treasures), or if he offers the wrong item at a monument. He loses inner strength if he touches Anubis, or if he hits him or Isis with a rock (stoning a lady is definitely not good for one's inner strength score).

GAME VARIATIONS

Game 1: Prince makes the journey through his kingdom as quickly as possible holding as many treasures as he can find. Ra accepts the treasures without requiring an offering. Prince begins the trip with the shield.

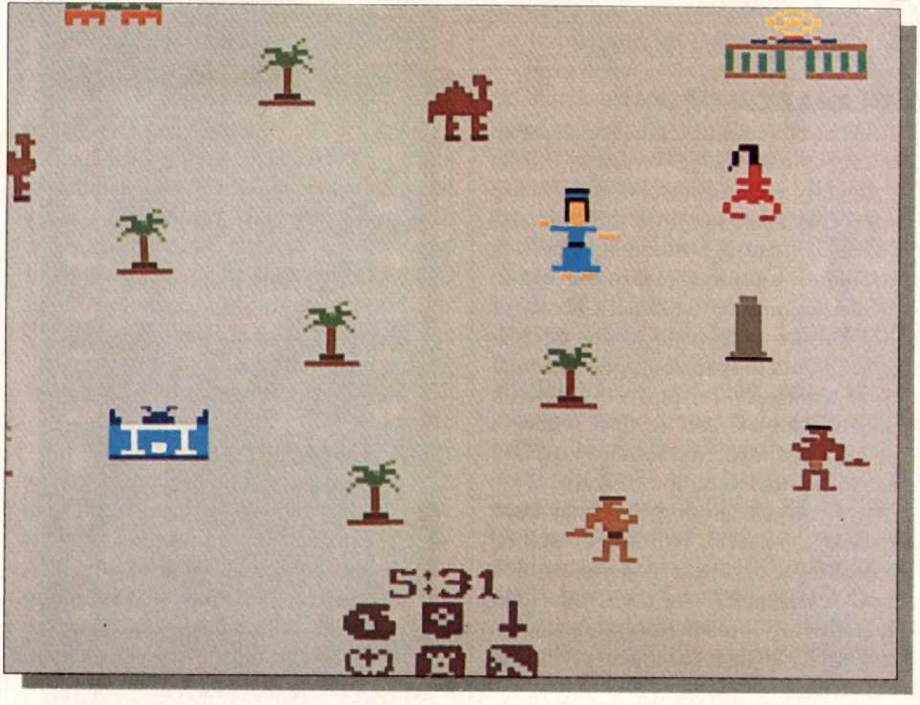
Game 2: When Prince gets to the Sphinx, it will not let him pass unless he makes the proper offering. At the Temple of Ra, no treasures will be accepted without the proper offering. Prince starts out with a shield.

Game 3: Two offerings are required at the Phoenix, the Temple of Isis, and the Temple of Anubis. A treasure is to satisfy the gods, and another object is to break the spell and let Prince pass. More clues about this are in the instruction booklet. The Sphinx still requires only one offering to let Prince pass. An offering is necessary for Ra to accept the treasures. Prince begins his trip with the spade.

COMMENTS

While there are riddles and clues involved in this game, the solution of them does not immediately end the challenge. There is still much room for improvement in terms of inner strength points and time required to complete the journey. After you have played all three games, you can continue to improve your score with practice.

Riddle Of The Sphinx is an enjoyable way to spend quite a few hours. And in case you want to get started early on the solution, Pharaoh's Astrologer has written: "Ra has all. What need has Ra of wealth? Offer instead that which stands yet cannot stand; that which journeys far yet has no legs; that companion you rely and lean upon, yet never think to call a friend." Good luck! ■

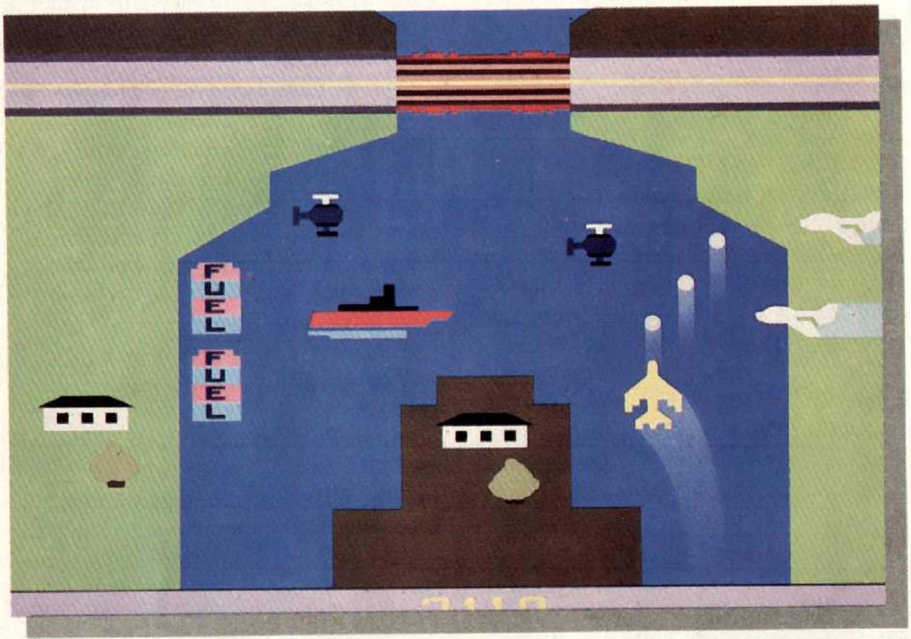


A few pointers which will help you direct the prince in his journey:

- Once you reach the Temple of Ra, if you are not ready to make your offering, you must go back; there is an upper boundary beyond which Prince cannot go.
- When he is going back over previously covered territory, keep Prince to the extreme left or right of the screen to avoid being hit by thieves or other baddies without warning.
- All the cute little sayings and inscriptions will give clues as to which offering to present where. These are not difficult to figure out, but you may have to think—just a little.
- Clear out any hazards around the monuments before making the offering; otherwise you may get distracted and the offering will not be accepted.
- After making an acceptable offering, do not hang around under the monument. You will lose inner strength points.

RIVER RAID

AN ATARI VCS GAME FROM ACTIVISION



BY OWEN LINZMAYER

DECLARATION OF WAR

In what our country considers to be an overt act of war, the government of Irata has illegally seized control of the Uhtarie River. This river has long been recognized as the natural border between Irata and Cigami, a protectorate of our nation since the signing of the Edacra Treaty of 1985. Failure to respond to this aggressive act would only encourage additional acts of violence. To protect American business interests and restore peace to this turbulent area, we formally declare war against the Republic of Irata.

What you are about to read has been classified top secret. Nothing contained herein is to be divulged to anyone with a security clearance lower than your own. The following information pertains to a secret mission that has been given the code name *River Raid*.

OBJECTIVE:

You are to infiltrate enemy territory, locate the Uhtarie River, and destroy all enemy units stationed in said river. This is a mission of total destruction. Everything in your path is to be obliterated. The success of this mission will be measured in the amount of property to which you lay waste.

Enclosed please find a pilot's manual and information on the enemy gathered by overseas intelligence operations.

CPU-73 JET FIGHTER PILOT'S MANUAL

The 73 is the country's most advanced aircraft, and as such, final testing has not been completed. All existing models at this point are lab prototypes. Early unconfirmed reports indicate that the CPU-73 is capable of feats for which it was not designed. Should you encounter any such unusual capabilities, notify your commanding officer immediately. Discuss no such information with subordinates.

DISPLAY MONITOR

Rather than using a contemporary windshield, the pilot flies blind and watches his actions on a video monitor that displays an aerial view of the CPU-73 via a support satellite. In addition to the river itself, a fuel gauge and score are displayed at the bottom of the screen. See attached photos taken by U2 surveillance planes for sample displays.

ALTITUDE

Using futuristic ez-band radar coupled with a proven auto-pilot, the altitude of the 73 is controlled by an onboard computer. This frees the operator to man the more intricate controls. Warning: to defeat enemy radar, the CPU-73 flys at such a low altitude that flying over anything except water will most likely result in a lethal collision.

STEERING

One of the remarkable features of the CPU-73 is that the steering controls have been simplified to the point where a cadet fresh out of flight school can easily deal with them. Moving your stick to the right or left causes the craft to follow in the same direction. Warning: the 73 picks up momentum when it is engaged in a turn. If you are not careful, you may misjudge your speed and crash into the river bank. Destruction of your jet is strongly discouraged.

VELOCITY

The jet engines of the CPU-73 are of such special nature that at this time no information concerning them can be disclosed to anyone outside of the Technical Development Command. It is sufficient to state that the engines are powerful enough to keep the craft airborne at a very slow speed. To fly at minimum velocity, pull the control stick all of the way back toward your body. For maximum velocity, push the stick as far forward as it will go.

FIRING MECHANISM

The most primitive feature of the 73 is its missile launcher. Due to cost overruns, contractors had to scrap the planned futuristic firing system and unfortunately, the 73 is equipped with an antiquated missile guidance system that can handle no more than one missile in the air at a time. As long as the red firing button is depressed, missiles will be launched as rapidly as possible. Note: with Congressional approval in the coming fiscal year, we hope to upgrade to a more effective missile system, but until such time, all CPU-73s will have the old style firing mechanism.

FUEL SYSTEM

Located at the bottom of your monitor is a gauge that displays the amount of fuel remaining in your aircraft. When the yellow line reaches a quarter tank, a warning buzzer sounds. If you exhaust your fuel supply, the CPU-73 will self-destruct.

INTELLIGENCE INFORMATION

It has been ascertained that the entire Irata fleet and airforce is concentrated in and above the Uhtarie River, preparing for a full-scale attack on Cigami. Intelligence feels that swift completion of Operation River Raid has the potential to cripple the Irata forces in one fell swoop. A breakdown and analysis of enemy units follows.

DESTROYER

These rather large seagoing vessels can be identified by their distinguishing colors: red, black, and blue. They can move only in the direction that they are pointed, and they turn around whenever they reach a river bank. Due to their size, destroyers make easy targets and are worth only 30 points when sunk.

HELICOPTERS

Although it is embarrassing to note, the Air Force of Irata relies heavily on helicopters purchased from our country's military surplus stockpile. The chopper pilots have strict orders to protect the destroyers—they are not permitted to leave the river. These blue copters fly in the direction that they are facing, and like destroyers, they reverse direction when they reach the edge of the water. Two factors in favor of the helicopters are that they are small and fast, which makes them worth 60 points each.

JETS

Irata has only a limited number of modern jets, which means that encounters with such aircraft should be minimal. You will penetrate a substantial amount of territory prior to your initial jet sighting. Jets always attack from the sides of the river, hoping to run into your plane. Their diagonal passes make them difficult to shoot, and therefore bounty for each downed jet runs at 100 points.

FUEL TANKS

The one thing that helps the enemy immeasurably is the availability of fuel right in the river itself. The rectangular red and white tanks can be destroyed for 80 points. They may also be used to refuel your own fighter.

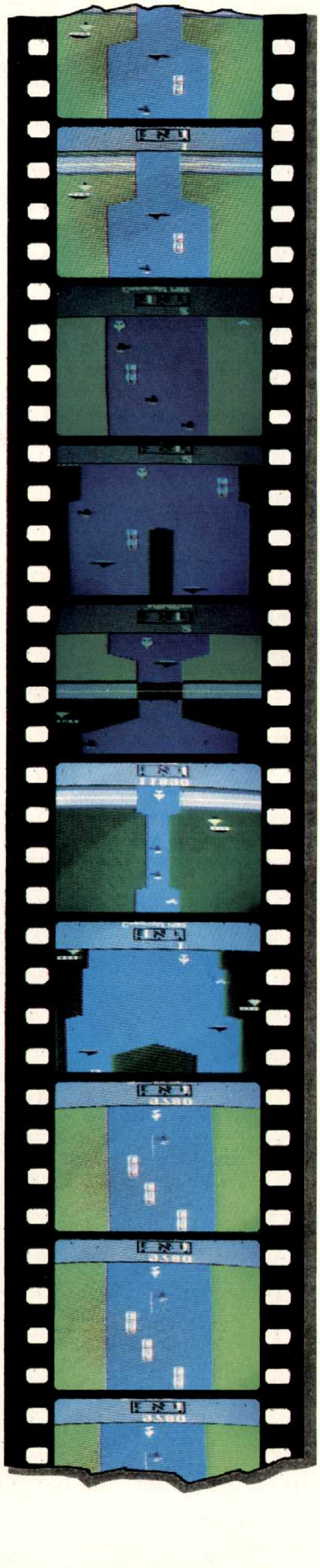
BRIDGES

The river is divided into sections by large bridges that span the width of the waterway. Blowing up these wooden bridges will cut Irata's land forces off from Cigami; 500 points are awarded for each bridge destroyed.

OBSERVATIONS

Several mock raids were recently staged along a desolate river in the Midwest to determine the battle effectiveness of the CPU-73. Below are firsthand observations printed in the words of the few pilots who survived these trial runs. While it must be kept in mind that said tests were not conducted under actual field conditions, the findings are of considerable value.

Fire your missiles conservatively. Since you may have only one missile in the air at a time, it is important that you fire only when necessary. When you do launch a shot, aim accurately because waiting for a stray missile to disappear costs precious time. Simply firing up the river when there is no enemy present is foolhardy—this may result in shooting a tank that you need for fuel.



Another thing to remember is that if your finger is on the trigger when a missile either goes off the monitor or hits a target, another missile is fired immediately. Many situations call for a single shot—when you want to destroy a helicopter, but not the fuel tank directly behind it, for example. In these cases, you can squeeze off one shot by quickly tapping the fire button when your target is in sight.

If you spot a stationary enemy craft upstream waiting in a cove off to the side, extra precaution should be taken. I have seen many an inexperienced fighter slow his jet down as he waits for the enemy to move into firing range. Most of these fighters are no longer with us. What you should do under similar conditions is speed up the moment you spot the enemy. As you near his position, slow down by pulling straight back on the control stick. This trick can be used quite effectively to coax the enemy out of hiding and into your sights.

Remember, your mission is to destroy as much as possible. If you set a slow pace as you fly up the river, you have plenty of time to shoot at most every enemy unit in the water. Don't be afraid to go slowly—it reduces the chances of accidents and increases the number of shots that you can fire at the enemy.

At times, the river is split by large central islands. Judging from the elements that can be spotted to both sides of the land mass, you must quickly decide whether to go to the right or left of the island. If you are low on fuel, choose the path that looks as if it offers little resistance and a possibility of a fuel tank. If you have plenty of fuel, go for the route that appears to have the most enemy units for you to destroy.

I have noticed that more fuel is transferred to your jet if you pass slowly over the fuel tanks in the river. The slower that you go, the more fuel you receive. If you pass over an entire tank at minimum velocity, you pick up half a tank of fuel.

When you have completely filled up your tank by flying over a fuel tank, a soft bell will ring. When you hear this reminder, quickly fire a missile. If you are on top of a tank and you launch a missile, the fuel tank blows up and you are awarded points. See, you can have your cake and eat it too.

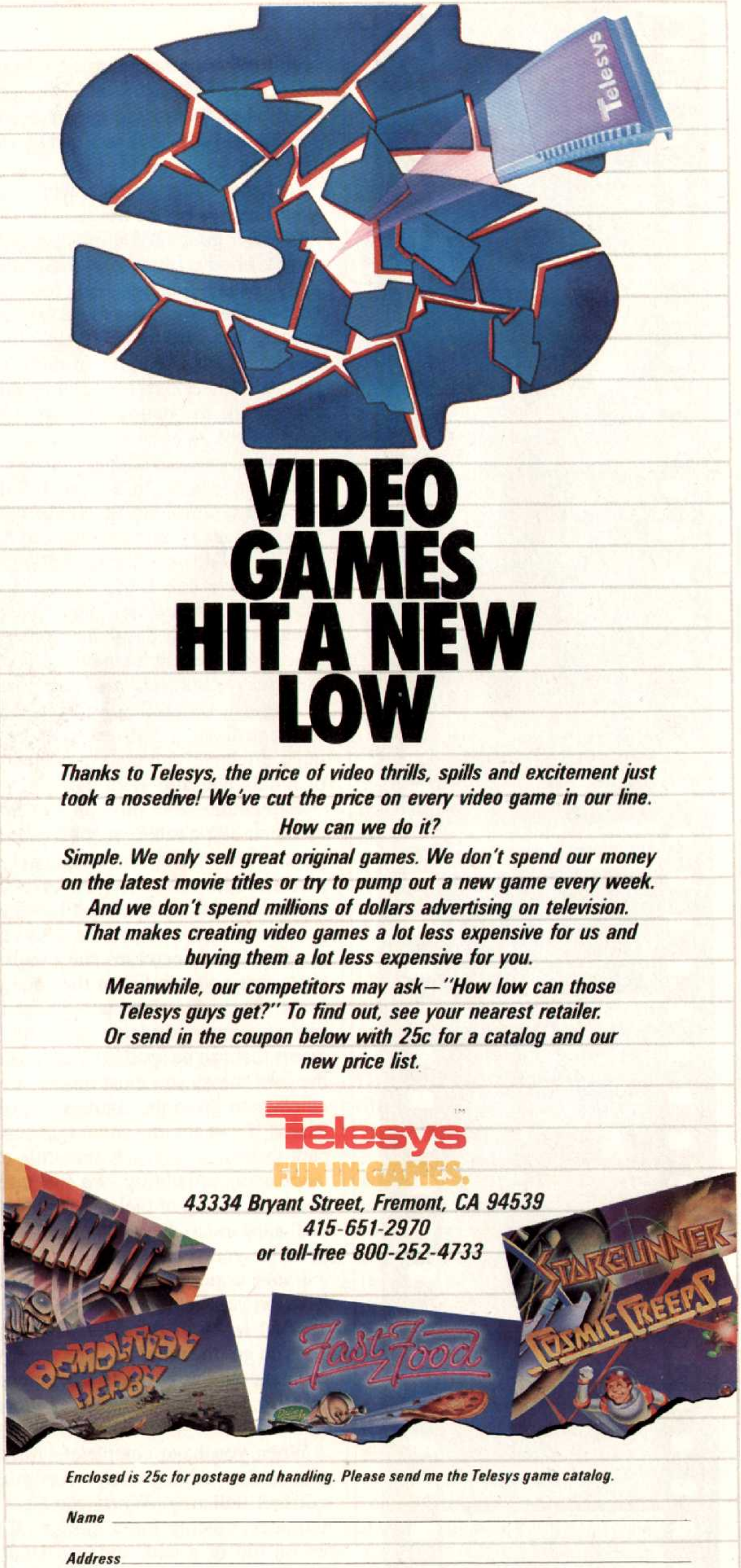
Once you establish visual contact with a bridge, move to the center of the river. Regardless of the situation around you, fire upon the bridge as soon as possible. Bridges carry the highest point value, and destroying them should be your first concern.

When the buzzer sounds, warning you that your fuel is running low, ignore the enemy and make a dash up the river in an attempt to find the nearest fuel tank. The rate of fuel consumption is not proportional to velocity, so don't worry about depleting your supply. When you spot a tank, slow down to receive the maximum amount of fuel. These mad sprints up the river can be avoided if you take advantage of every opportunity to top off your tank.

Jet fighters are the most evasive of all the enemy forces. Their quick diagonal passes make them difficult targets to hit. The best method of shooting a jet is to reduce the amount of distance between the two of you. When the jet is in range, fire away. If you miss, speed up so that after it wraps around the screen, the jet flys harmlessly below you, instead of into your blindside. Be on the lookout after each jet encounter since the enemy usually sends them in pairs.

> ***WHEN THE BUZZER SOUNDS, WARNING YOU THAT YOUR FUEL IS RUNNING LOW, IGNORE THE ENEMY AND MAKE A DASH UP THE RIVER IN AN ATTEMPT TO FIND THE NEAREST FUEL TANK.***

Operation River Raid depends solely upon your skill and how well you apply the information you have just absorbed. Due to the secrecy of this mission, you are now to take these papers and personally see to it that they are either placed in the incinerator or put through the paper shredder. May your aim be true and your trigger finger quick. Good luck. ■



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CIRCLE 25 ON READER SERVICE CARD

MS. PAC-MAN

THE KING OF VIDEO GAMES IS A WOMAN/BY ADAM THOMPSON

When the Atari VCS *Pac-Man* cartridge reached the stores last year, it climbed immediately to the top of the sales charts. Just as quickly, it sank to the bottom of the popularity charts. The reason for this? Disregarding quality, Atari cut every corner to rush a *Pac-Man* cartridge onto the market while enthusiasm for the coin-op game was still hot. Even Atari employees candidly admit that "the VCS *Pac-Man* is a joke." Fortunately for maze aficionados, the home version of *Ms. Pac-Man* is as wonderful as *Pac-Man* is deplorable.

Ms. Pac-Man is a single player game that has four difficulty levels represented by one to three teddy-bears (kiddy levels) or a single cherry. The level you choose determines the number of ghosts that chase you through the maze.

The thing that annoys me the most about Atari *Pac-Man* is that due to the limitations of the graphics chip in the VCS, the displaying of the ghosts was programmed in such a way that the monsters flicker constantly. This flickering has been greatly reduced in *Ms. Pac-Man*. The ghosts are four different colors, and each has a distinct behavior—some wander the mazes randomly while others intuitively chase you.

A combination of quality and variety is the name of the game in the home version of *Ms. Pac-Man*. Instead of the stationary block that served as a prize in *Pac-Man*, *Ms. Pac-Man* boasts an assortment of seven colorful food objects including pears, twisted pretzels, and bananas. Prizes enter and exit the maze through the wraparound tunnels on the sides of the screen. Each prize is depicted in full detail and wanders through the corridors tempting you to catch it for bonus points.

The maze itself changes when you have eaten all of the dots that line the hallways twice. As in the coin-op version, there are four different maze configurations. New mazes can be recognized by the color of the walls.

You control the direction that Ms. Pac-Man moves by using the joystick. I have played this game with the old Atari stick and the "new and improved" Atari Proline joystick. The Proline joystick is much too sensitive to make *Ms. Pac-Man* enjoyable—the slightest touch of the stick sends the yellow chomper munching in another direction. I prefer to play with the old uncomfortable stick and enjoy the benefit of better control.

On the other hand, one of our other editors strongly prefers the Proline, D-Zyne or other sensitive stick over the Atari one.

Ms. Pac-Man is an amazing comeback for Atari after the disappointing *Pac-Man* cartridge. *Ms. Pac-Man* is everything her masculine counterpart is not; she is the epitome of a fun maze game. Not owning a *Ms. Pac-Man* cartridge is like not owning an Atari. ■

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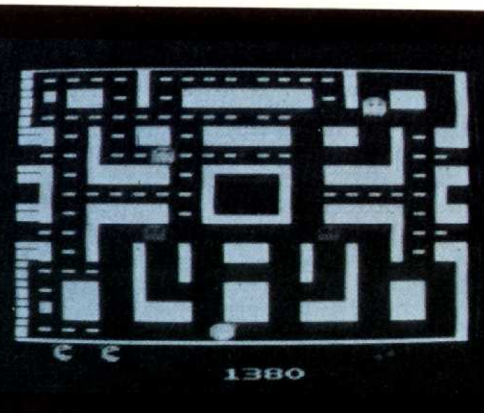

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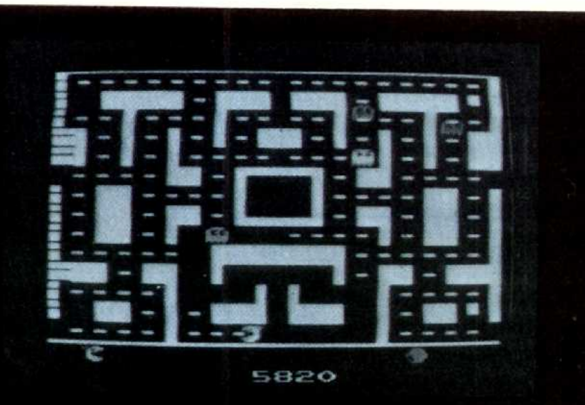

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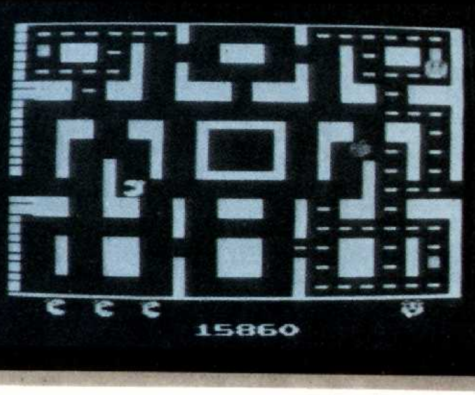

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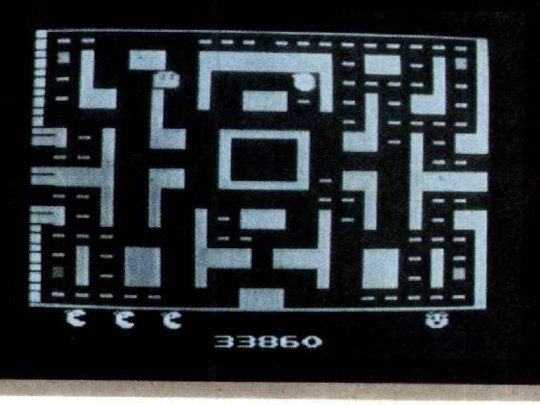
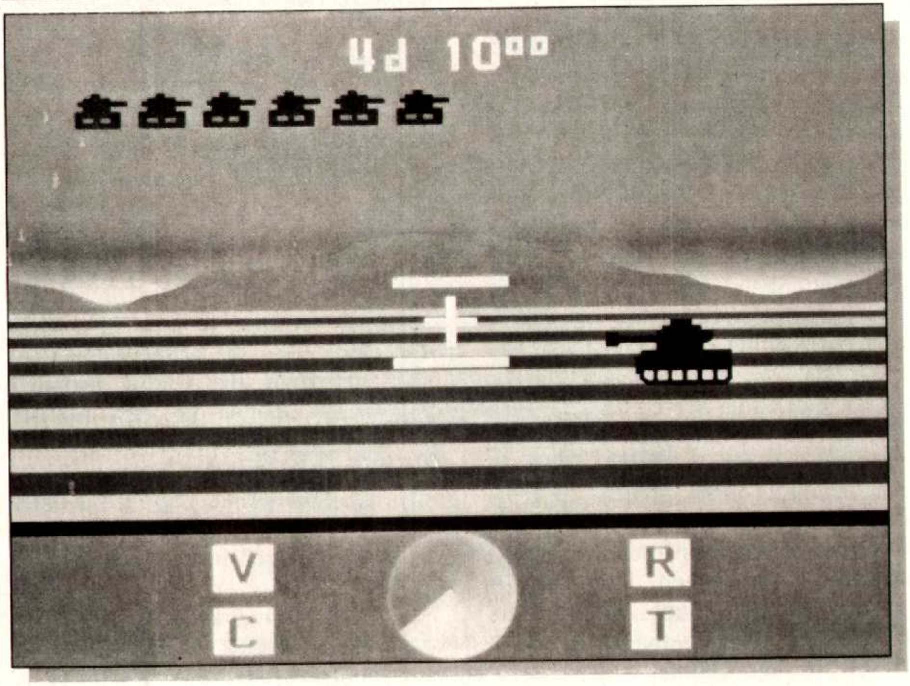


ROBOTANK

SNEAK PREVIEW/BY ADAM THOMPSON



Activision displayed some very promising new games at the January Consumer Electronics Show in Las Vegas. Of the many impressive offerings, *Robotank* by Alan Miller promises to be the blockbuster both at cash registers and on Atari VCS systems across the country when it is released this summer.

Robotank is basically a variation on *Battlezone*, the vector graphics coin-op arcade game from Atari. In both games, you are in control of a tank located in the middle of a barren field. You must destroy enemy tanks after pinpointing their positions by using the window view and a small radar scope. When asked if the similarity between the two games violates Activision's policy of no adaptations, designer Miller replied that "there is no hold on this particular concept (the player located within the tank, looking out)."

ROBOTANK GRAPHICS ARE SO ADVANCED, THEY MAKE THE ATARI VCS LOOK LIKE AN ENTIRELY DIFFERENT MACHINE

As you can see by examining the screen shot above, the *Robotank* display is divided into two sections. The majority of the screen is occupied by the view of the battlefield. From your seat within the tank you can see anything that is in front of your tank; conditions permitting. The remainder of the screen consists of the status panel.

Located in the center of the status panel is a circular radar display with a sweeping arm. If there is an enemy tank on the battlefield, it will appear on this display as a pink dot relative to your position.

Situated around the radar display are four yellow boxes with capital letters in them. These are the damage indicators. When your tank is shot, you suffer either a direct hit or a glancing shot. The first destroys your tank, the latter merely damages it. The type of damage inflicted upon your tank is random. If the V box is on, your video display will flash on and off. C means that your cannon firing power is cut in half. R indicates that your radar has been rendered useless. T simply slows down the turning ability of your tank.

The 3-D graphics in *Robotank* are so advanced, they make the Atari VCS look like an entirely different machine. As you maneuver around the battlefield, the ground rolls toward you in a wavelike fashion, giving the impression that you are actually crawling through little ditches and gulleys. Approaching tanks grow in size, as do shells shot at your tank.

Since your score is represented by the number of days and hours that you survive, it makes sense that the game should progress through both night and day scenes. It does. Dusk envelops the field as you witness a beautiful sunset cradled in the distant mountains. When darkness obscures your view, you must rely solely on the radar display and the flashes of light provided when an enemy tank fires.

Adding realism to *Robotank* is the addition of changing weather elements. A sunny day provides optimum battle conditions, but sometimes you are besieged by foul weather. If it is raining, your movement is hampered. You have less control of your tank when it is snowing, and when fog blankets the field, your view is limited.

Robotank has no option settings. You begin each game with four tanks—a bonus one is awarded for every squadron of 12 enemy tanks that you destroy. The game can last indefinitely as long as you continue to destroy tanks, but don't count on being able to hold out for too long. As the game progresses, the enemy becomes much more aggressive.

Robotank is a game that will appeal to players who enjoy *Battlezone* and anyone who is captivated by realistic simulations. The version of the game that I saw at CES was an advanced prototype; the finished product may be slightly different. When I get my own copy of *Robotank*, I plan on locking myself into a room with an Atari and not letting anyone else play for a long time. ■

SOFTWARE PROFILE

Name: Robotank
Designer: Alan Miller
Type: Arcade
System: Atari VCS
Format: Cartridge
Summary: Awesome
Price: not yet released
Manufacturer:
Activision
3255-2 Scott Blvd.
Santa Clara, CA 95051

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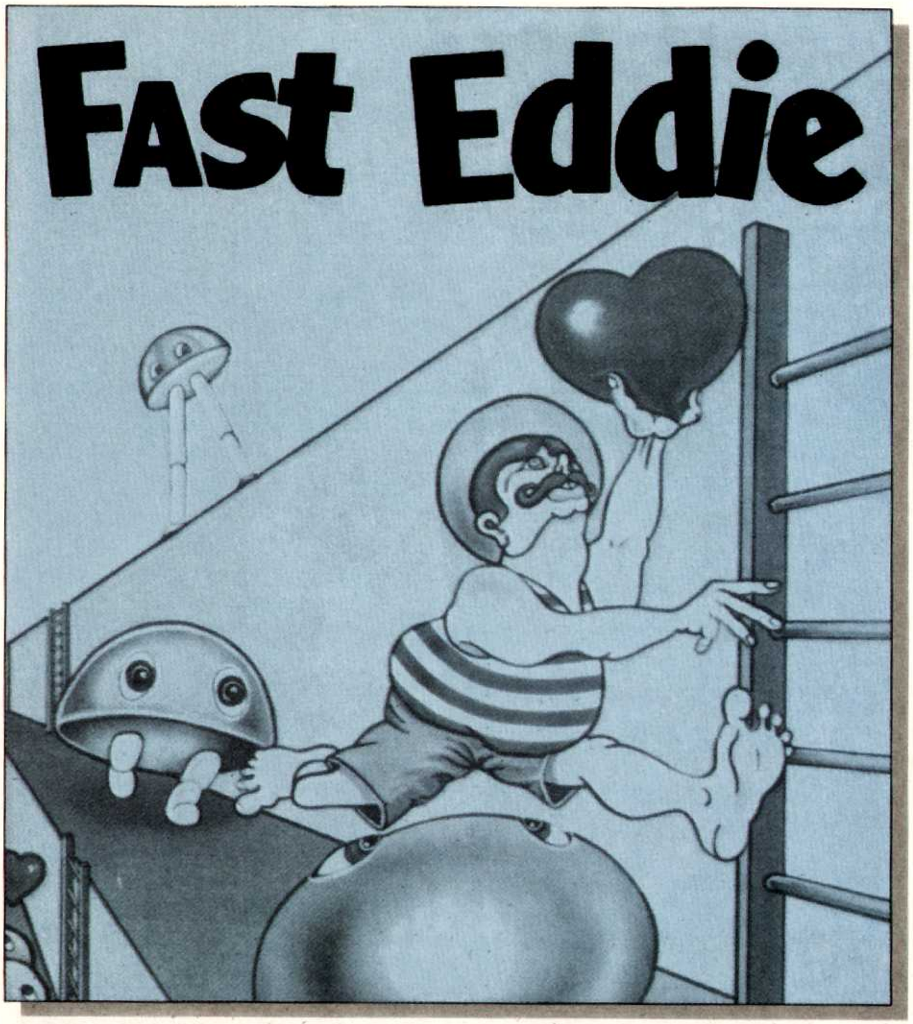
CIRCLE 17 ON READER SERVICE CARD

Fast Eddie



BY MARTHA KOPPIN

DESCRIPTION

No, *Fast Eddie* is not the would-be Cassanova of your high school class. He is an energetic fellow whose main objective in life is running around what seems to be an unfinished four-story building grabbing various prizes that float by. Your objective is to guide Eddie up and down the connecting ladders as well as horizontally over each floor to enable him to get each prize.

Also inhabiting the building are several Sneakers (yes, Sneakers) that actually look more like tap-dancing cockroaches. Unfortunately, somewhere along the line Eddie has made enemies of these Sneakers and they are all out to trip him (Eddie seems to melt more than actually to trip on a Sneaker). When Eddie trips he falls to his death and a new Eddie takes his place (apparently somewhere there is a Master Eddie who is being cloned).

You start each game with three extra Eddies and are awarded one replacement Eddie each time you successfully complete a play screen. However, you will never have more than three spare Eddies. The number of spare Eddies is indicated by short lines under your score at the top of the screen.

So then, the object of the game is to avoid the Sneakers by running away from them to another floor or by jumping over them. At the beginning of the lowest level of play, some of the Sneakers are running back and forth (always in a consistent spead and pattern), and some are standing still. Obviously the stationary Sneakers are easy to avoid, although my Eddie was at first very prone to bump into them anyway. The moving Sneakers at the lower skill levels are also fairly easy to avoid, especially if you can teach Eddie to take a running start before trying to hurdle them.

Jumping from a dead stop results in a vertical jump, which is useful for jumping up to grab the prizes (besides being clumsy, Eddie is also short). However, the most useful jump is that which is preceded by a run so that it has both height and breadth.

If Eddie touches a Sneaker, he trips, so it is imperative that he become skilled at completely clearing his obstacles. To this end, it is easiest to approach an oncoming Sneaker at a run and jump over it right before it collides with Eddie. It is much easier to jump too late than too soon.

Eddie will be slightly less likely to land on top of the Sneaker and fall than to trip during his take-off. Therefore, during the early stages of the game, when jumping over just one Sneaker at a time, start the jump a little early to be on the safe side. Jumping over a Sneaker that is going in the same direction as Eddie is obviously counter-productive.

At the top of the building is a long-legged Sneaker (High-top) that is too tall for Eddie to jump. After the ninth prize is pocketed, High-top shrinks to a more manageable size and holds a key over its head (its laces?). Eddie must now jump over High-top and get the key. There is still one more prize left, which may be taken for an extra 90 points, but it is not worth the extra points if, in the process of trying to secure the prize, you lose Eddie.

JOYSTICK CONTROLLER

The joystick moves Eddie horizontally across each floor of the building, and vertically up the connecting ladders. Pressing the red button on the controller enables Eddie to jump. The red button also resets the game after your last Eddie has fallen to his death.

Pressing the Color-BW lever on the console freezes the game, allowing you to go to fix a snack or let the dog out. The trick is get your hand off of the joystick and onto the Color-BW switch before your immobile Eddie is tripped by a speeding Sneaker.

AFTER THE NINTH PRIZE IS POCKETED, HIGH-TOP SHRINKS TO A MORE MANAGEABLE SIZE AND HOLDS A KEY OVER ITS HEAD (ITS LACES?).

SCORING

There are ten prizes for Eddie to grab per play screen. He must grab nine in order to go on to the next screen. The first prize grabbed is worth 10 points, with each successive prize being worth 10 points more than the last until nine are grabbed. The ninth prize is worth 90 points, as is the tenth prize, which is optional.

Scoring always starts over at 10 for the first prize on each play screen.

EDDIE IS VERY UNLIKELY TO BE TRIPPED WHILE CLIMBING OR DESCENDING A LADDER.

PLAYING STRATEGY

The beginner level of play has two roving Sneakers and two stationary ones. The strategy, therefore, is to use the floors on which the lazy Sneakers dwell as a base of operations, only going onto the other floors to grab a prize quickly and retreat. Be careful that Eddie doesn't trip over the stationary Sneakers—he must still take a running jump over them.

There are always two prizes on the screen; one moves across the floors at a slower pace than the Sneakers and Eddie, and one stays still. When a prize is grabbed, the number of points awarded is shown briefly in place of the prize, and then a new prize appears in a different location. The new prize will never appear on the same floor as Eddie.

Eddie is very unlikely to be tripped while climbing or descending a ladder. This fact is particularly useful when the ladders are arranged one on top of the other, so that Eddie can climb through several floors without getting off the connected ladders. Since one of the two prizes on the screen is moving, theoretically at least, if Eddie can keep moving up and down the ladder without stopping or inadvertently getting off, the prize will eventually cross his path.

Unfortunately, it is difficult to keep Eddie moving back and forth without a pause. It is generally easier to tackle the prize by jumping over the Sneakers, thereby letting it get to the opposite end of the floor.

The second play screen on the beginning level has all the Sneakers moving on every floor. This obviously increases the difficulty; however, as soon as Eddie is tripped, the second and fourth floor Sneakers become immobile, making the play exactly like the previous screen. (Assuming, of course, that you still have a replacement Eddie.)

The single most important move to master is that of making a vertical jump at the edge of the screen just as the approaching Sneaker is about to get Eddie. The Sneaker will either reverse direction and move harmlessly away, or pass under him and move off stage. This move is often the only way to avoid the bigger Sneakers or groups. There also seems to be more leeway in the timing of this maneuver, with Eddie staying airborne longer.

GAME VARIATIONS

Each of the eight games of *Fast Eddie* is simply the basic game, but starting at a different skill level. Therefore, if you can stay in Game 1 long enough, you will eventually pass through Game 8. This is great for practicing at the higher levels without having to go through all the beginning stages.

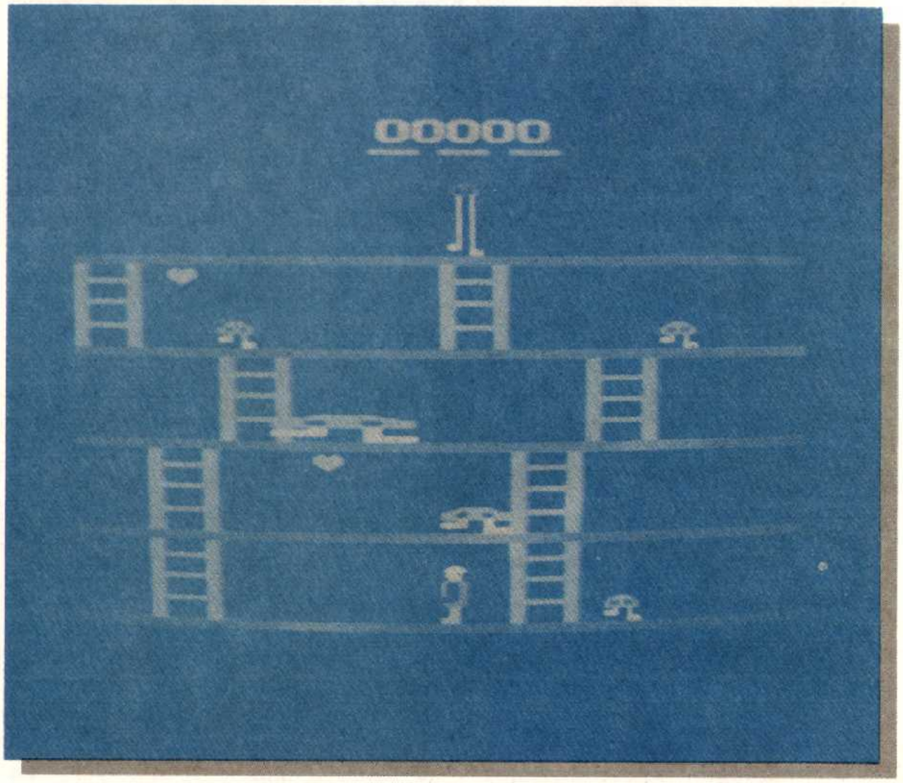
Game 1: Beginning level. Each floor has single Sneakers, which, after the first screen, all move until an Eddie is lost, at which time, two of them stop.

Game 2: The first three floors have single Sneakers, and the top floor has twin Sneakers, close together. All of the Sneakers move, and do not stop after an Eddie has been tripped. The twin Sneakers are so close together that jumping over them is no problem.

Game 3: There is a single Sneaker on the bottom floor and three widely spaced ones on the second and fourth floors. These fellows are so widely spaced that only two fit on the screen at a time, with the third reappearing from off stage as they move back and forth. You must keep track of which side it left from, so that you know where to expect it next. These Sneakers are impossible to jump over in the regular manner, since as you clear one you land on top of the next. Therefore, the following method must be used to remain on their floor for more than a few seconds (when grabbing a prize, for instance).

As soon as the game starts, go to the ladder on the right and wait until the Sneaker on the left side leaves the screen. At this time, go to their floor and move all the way to the right edge. As the Sneakers come back to you, make a vertical jump (not running) over the first one (the one on the right end), it will pass under you and leave the screen. Wait about a second and jump over the next one; it will safely reverse direction under you.

Now wait the same amount of time and jump again; the Sneaker which was off stage will reappear under your feet (if your timing was right) and move off to the right. If you want to move to the next level, this is your chance. If there is a prize to be won on this level, simply wait at the far right of the screen and repeat the procedure as many times as is necessary for the prize to coincide with your jumps over the sneakers. You won't have to wait long.



In this game, the third level has a big Sneaker, which is not too hard to jump over, especially if you have mastered the technique of leaving the ground at the last possible moment to clear the bigger obstacle.

Game 4: The first floor has a single Sneaker, and the second floor has two Sneakers with a moderate distance between them. Eddie can jump over them with practice. The third floor has the two little twin Sneakers, close together—no problem—and the fourth floor has the three obnoxious Sneakers, wide apart. Use the method described above to make just one entrance onto this floor. Forget about the optional prize for a while.

THE THIRD FLOOR HAS THE TWO LITTLE TWIN SNEAKERS, CLOSE TOGETHER— NO PROBLEM.

Game 5: The first floor has a single Sneaker, and the second has one bigger one. The third floor has a gigantic Sneaker, which Eddie can jump over, but only if he concentrates! The third floor again has the three widely spaced Sneakers.

Game 6: The first floor has a single Sneaker, and the second has triplets whose total size is about the same as the gigantic Sneaker; it is possible to jump them, but avoidance is probably the best route. The third floor has the single big Sneaker and the fourth has the three widely spaced ones.

Game 7: The first floor has a single Sneaker, and the second has the two moderately spaced ones. On the third floor is the big Sneaker. The fourth floor has a nasty combination of three moderately spaced Sneakers, and then at the other end, two moderately spaced ones. Needless to say, they do not all fit on the screen, so you must contend with their sudden appearance at the edge of the floor. Also, they cannot be jumped in the conventional manner.

You must approach the floor from the left ladder, and get between the two sets (see the diagram: there are two more Sneakers in this group, but both are off stage—one on each side of the screen) as they are moving to the left. Move with them to the far left of the screen, and make a vertical jump just as the Sneaker A is about to get Eddie. It will reverse direction and Eddie will be safe.

AVOIDANCE IS PROBABLY THE BEST ROUTE.

At this point, he will be surrounded and will have to move back and forth as they do until the time is right to make his escape to the top floor to get the key.

Obviously, it is best to forget the optional prize on this floor; it will take all of your concentration just to keep Eddie alive.

Game 8: The first floor has the one big Sneaker, the second has the two moderately spaced ones, and the third has three close Sneakers. The fourth floor has the same miserable combination of three and two described in Game 7. Use the same strategy. ■

SKIING

BY MARTHA KOPPIN

DESCRIPTION AND PLAYING STRATEGY

Game 1 is the novice slalom run. It has 20 gates and a fairly tame slope. The skier begins this and every run in Position 1R. Since the first gate is to your left, tap the joystick lightly to the left twice. This will move you through Position 1L and start you moving slightly to the left in Position 2L. You will have to move left only a little. To stop the left movement of the skier, tap the stick once to the right; this will get him started directly downhill again (Position 1L) to just clear the right flag of the first gate.

The gates are numbered according to how many you have left to go, with the number of the gate you are approaching shown on the top of the screen, above your time. So, with Gate 20 out of the way, tap the stick gently to the right twice to move through Position 1R, moving slightly to the right in Position 2R. Again, you will have to move only a little—just enough to clear the left flag of the Gate 19. Do the same to clear Gate 18.

It is critical that you get as close to the left flag of Gate 18 as possible. If you can squeeze right up against it without actually hitting it, you can stay in that downhill run right through Gates 18, 17, 16, 15, 14, and 13.

Gate 12 will be to your left, so be ready, perhaps even as you are moving through Gate 13, to move a little to the left to clear the right flag of Gate 12. Gate 11 is a little farther to your right, but is easily cleared if you are watching for it. If you can keep close to the right flag of Gate 11, you can stay in that downhill position for Gates 11 through 8.

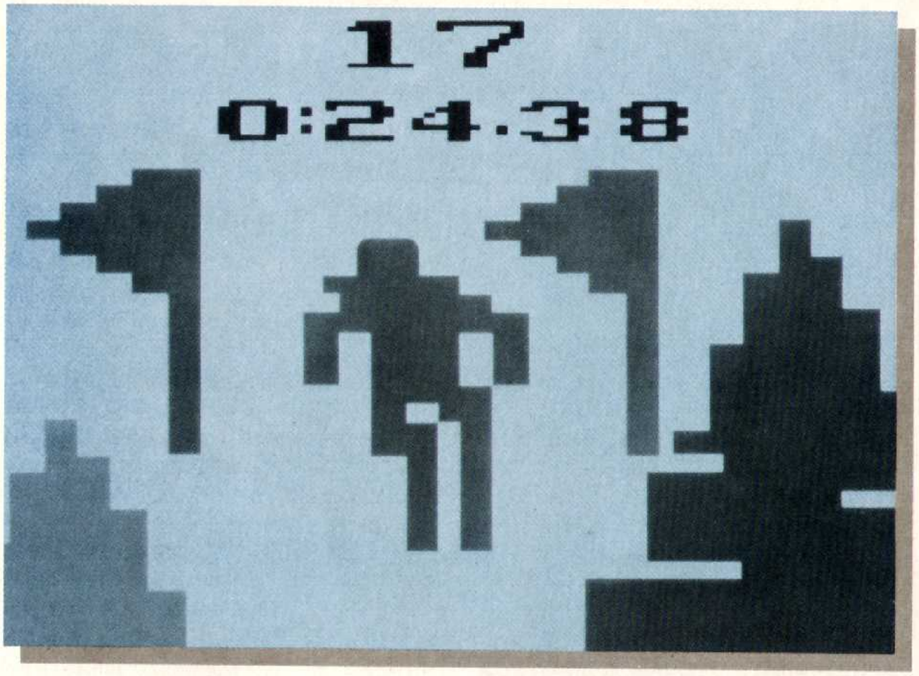
When passing through 8, start moving a little to the right to clear Gate 7. Stay close to the left flag, which will put you in a good position to clear Gates 6 and 5. Gate 4 will be a little to your left—no problem, except that you must now prepare to go through Gates 3, 2 and 1. All of these are quite far to the right of each other, so you must start your gentle movement to the right early to avoid having to make sharp right turns, which are costly in terms of time lost.

In summary, Gates 12, 7 and 3 are those for which you must be ready. Start your approach to these early, while you are clearing the previous gate. You must be moving straight downhill for as much of the run as possible; use Position 2L and 2R (those which make the skier move only slightly to the right or left) only to get into position for each gate. Any other positions are only for emergency maneuvers; however, it is better to use them rather than to smash into a flag, since it takes a fair amount of time to get back up and continue the run.

You should not aim for the middle of the gate, but for the inside flag in most cases.

Since Game 3 is the standard for the Activision Ski Team, I will give you a brief preview of the course:

> It helps to be prepared for Gate 27, but the real problem comes at Gates 20 and 19. You must start preparing for 19 long before you clear 20, or you will have to make a very sharp turn to get back on the track. Gate 8 is off to the right, so be ready to cruise through it and then through 7 at the same angle. You will not be able to use the straight downhill positions at all for these combination Gates (20 and 19, and 8 and 7). Other than these two problems, if you keep your eye on the bottom of the screen to get as much warning as possible of upcoming gates, you should not have too much trouble. Needless to say, it is a tremendous help to memorize the pattern of gates.



JOYSTICK CONTROLLERS

Move the joystick left or right to position your skis. There are eight positions for the skier, each of which has two degrees of movement. To accurately control this movement you must tap the joystick in the desired direction, rather than pressing it. Each tap makes the skier move more to the left or right, depending on which way you tap.

Since there are 15 directions for the skier to move and only eight visual positions for him, it stands to reason that only every other tap will result in a visual change in his position. Nevertheless, increasing the angle at which he skis down the hill will result in time loss, even if you cannot see the difference.

Also, sometimes there seems to be a lag between the time that you hit the joystick and when the skier's direction actually changes. Resist the temptation to hit the stick again; it will move you to the next position and turn you too far.

This advice becomes more important as you become more proficient at each run. At first you will find yourself madly weaving back and forth between the gates, and the nuances of movement will seem insignificant.

There are two positions in which the skis point downhill; one has the body leaning slightly to the right and the other has him leaning slightly to the left. Both of these have a straight downhill direction (Positions 1L and 1R) and also one which drifts the skier into the direction in which he is leaning (2L and 2R). These four positions should be all you need as you become familiar with each course. Other positions will result in a significant loss of speed.

The red button is a reset in the slalom runs only. In the downhill runs, when the right difficulty switch is on A, the red button causes the skier to jump when pressed. This is necessary to avoid falling on the moguls.

When the right difficulty switch is on A, the slalom runs become harder because trees are positioned directly in front of the gates. When the left difficulty switch is on A, the skier gains the ability to move off the trail, skiing as far left or right as he wishes. On the slalom, this is unnecessary, but if you wish to do so, the gates reappear as you continue. In downhill racing, moving "around the mountain" makes an interesting trip, but is inefficient, timewise.

SCORING

Scoring in this game is strictly against the clock. Each run is different and therefore has its own time to beat (these are not listed in the instruction booklet—you will have to guess) with Game 3 as the standard for the Activision ski team. If you can make this in less than 28.2 seconds, I guess you can go to the Olympics (as a spectator, and at your own expense).

VARIATIONS

Games 1 through 5 are slalom runs, with gates. There are moguls, but the skier has no problem with them. Games 6 through 10 are downhill runs with no gates, just trees and dangerous moguls. When the difficulty switch is on b, the skier jumps over the moguls automatically; when it is on you must jump them using the red button on the joystick.

Game 1: Novice slalom run with 20 gates.

Game 2: Intermediate slalom run with 40 gates.

Game 3: Expert slalom run with 30 gates.

Game 4: Olympic slalom run with 50 gates.

Game 5: Same as Game 3, except that each time you turn off the power or select another game, you get another pattern of gates. Since the pattern will not change until you do hit the power or select switch, you can play each run until you become proficient, and then get a new one for another challenge.

Game 6: Novice downhill run—200 meters.

Game 7: Intermediate downhill run—300 meters.

Game 8: Expert downhill run—500 meters.

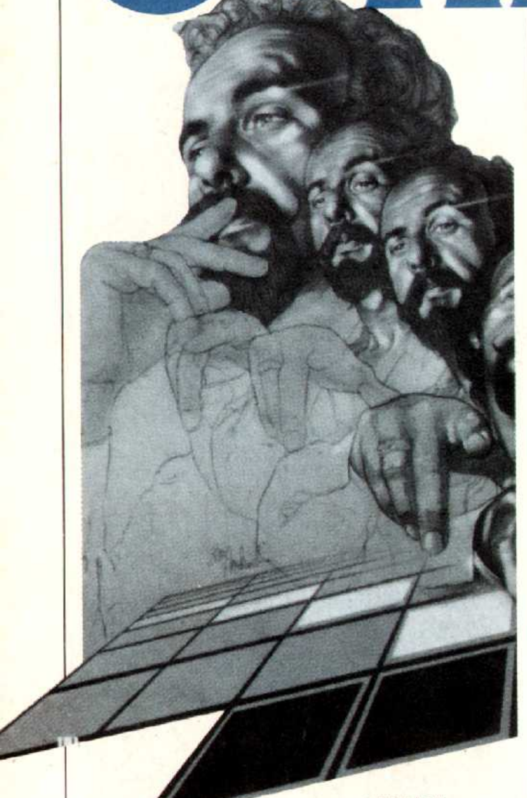
Game 9: Olympic downhill run—900 meters.

Game 10: Same as Game 9 except, as in Game 5, you get a new pattern of trees and moguls each time you select Game 10.

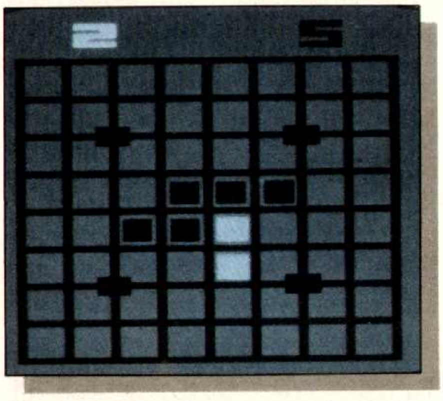
COMMENTS

Activision's *Skiing* will never replace "tight boots, cold hands, long lift lines" etc., but it is an entertaining video game whose charm lies in the fact that the player can become noticeably better in a reasonably short time. Also, since there are games whose patterns offer a new challenge each time, the inevitable boredom is slow in setting in.

OTHELLO



ATARI



BY MARTHA KOPPIN

DESCRIPTION

Othello is a game for Atari freaks who have more brain than brawn. You may already know it as a board game.

The game board is a grid of 64 squres. At the start of the game, two black markers and two white markers are at the center of the board. Squares are captured by positioning one of your markers on each side of your opponent's marker or markers. This can be done in a horizontal, vertical or diagonal row, and only those markers which touch each other are captured. Markers can change colors any number of times, depending on who captured them last. Only moves that result in the capturing of your opponent's men are legal. Detailed instructions are given in the Othello Game Program Instruction booklet.

JOYSTICK CONTROLLERS

Move the joystick in the direction you wish to move the cursor (the flashing square that indicates where the next marker will be). When you have positioned the cursor, push the red button to place your marker on that square. A nasty buzzer will sound if you attempt an illegal move (Atari hates cheaters).

SCORING

Each captured square is worth one point, but it is difficult to predict the outcome of any game based soley on the score at any given time. Since the squares change color as they are captured and recaptured, the score changes accordingly.

PLAYING STRATEGY

Amassing great numbers of squares is not as important as securing key locations. The most important squares to occupy are the four outer corners, as they not only assist in capturing the remainder of the outside rows (Area Number 3, which is of secondary importance), but are themselves safe from capture. The inner 16 squares (Area Number 1) are filled up first because they provide safe positions which cannot be used as bridges to capture the outside squares.

In positioning your markers in the outside rows, try to put them together in the middle of the row, avoiding the squares second from the end (unless you have already captured the adjacent corner). Avoid leaving one empty square between outside row markers, as your opponent can place his marker safely between the two and may be able to capture some of your spaces. Two empty spaces between your markers are better than one, since you can quickly capture your opponent's marker if he should try to occupy one of these spaces.

The empty space adjacent to the corners becomes valuable to you if your opponent occupies all of the surrounding spaces except for the far corner space. If you can capture this second-to-last space, then the far corner space can also be occupied, capturing all of the interior spaces.

Avoid positioning your marker in Area Number 2, as this can make a handy bridge for your opponent to get to the outside rows. Eventually, you will have to move in this area, but put it off as long as possible and position your marker so that if your opponent gets to the outside, he will at least be in the square adjacent to the corner (assuming the rest of the outside row is empty). Hopefully, you will be able to use him to capture the corner.

AMASSING GREAT NUMBERS OF SQUARES IS NOT AS IMPORTANT AS SECURING KEY LOCATIONS.

VARIATIONS

There are no variations of this game, only degrees of intelligence in your opponent. ■

Game 1: Your opponent is Atari, who is a beginner and a great deal of fun to play with, primarily because he is easily beaten. He makes many stupid moves and most of your enjoyment comes from telling him so.

Game 2: Your opponent is intermediate Atari, who is getting much more skillful now and can give you a run for your money.

Game 3: Your opponent is expert Atari, who is now capable of beating the pants off of you. Now *you* are the one who makes all the stupid moves; fortunately, Atari is too much of a gentleman to tell you about it. Unfortunately, since the game is on the TV, you can derive no satisfaction from overturning the board when you are losing. There is the reset switch, however . . .

Game 4: Two player game. Your opponent is another human, who must be supplied by you. If you're smart, you'll choose a dummy.

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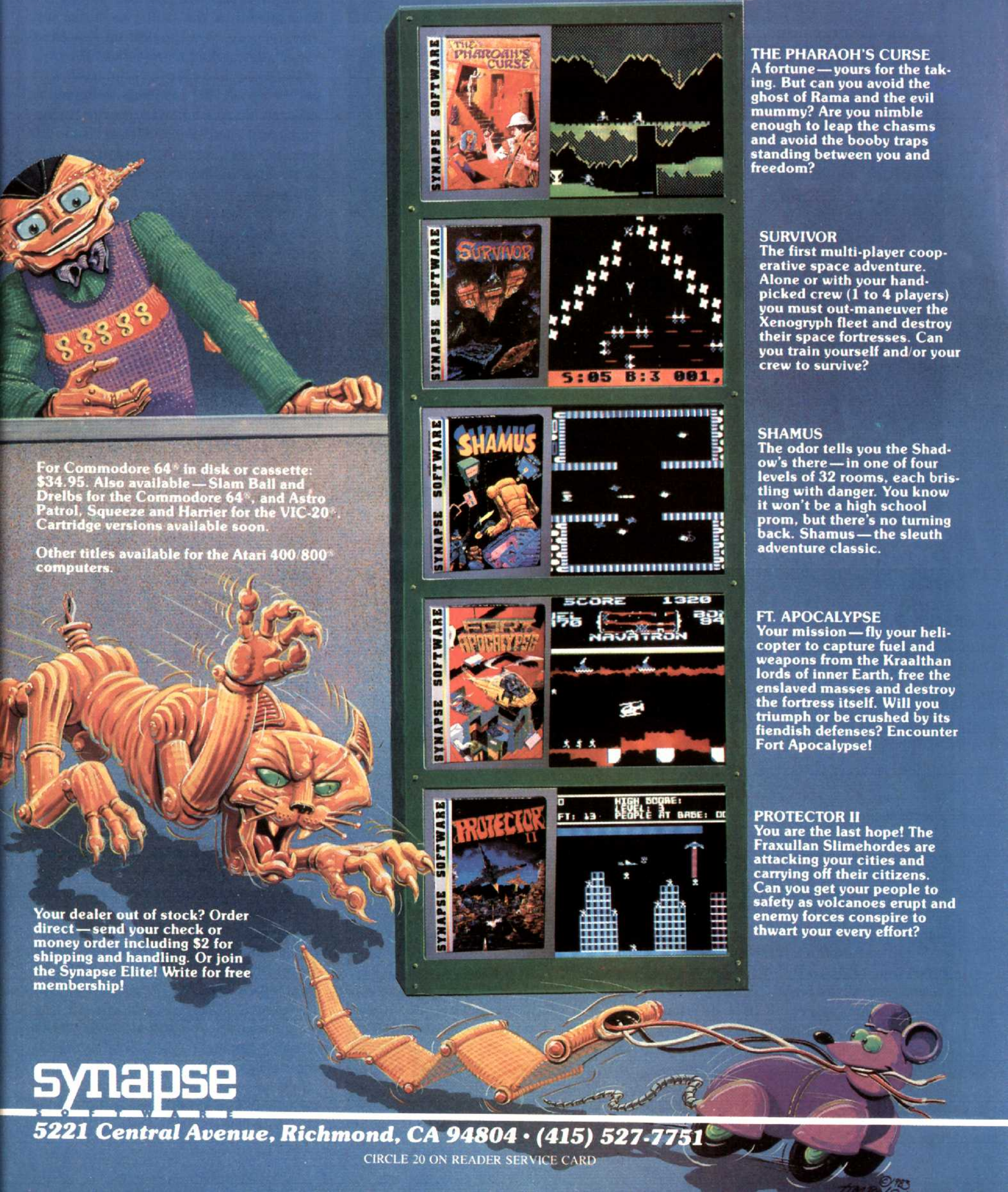

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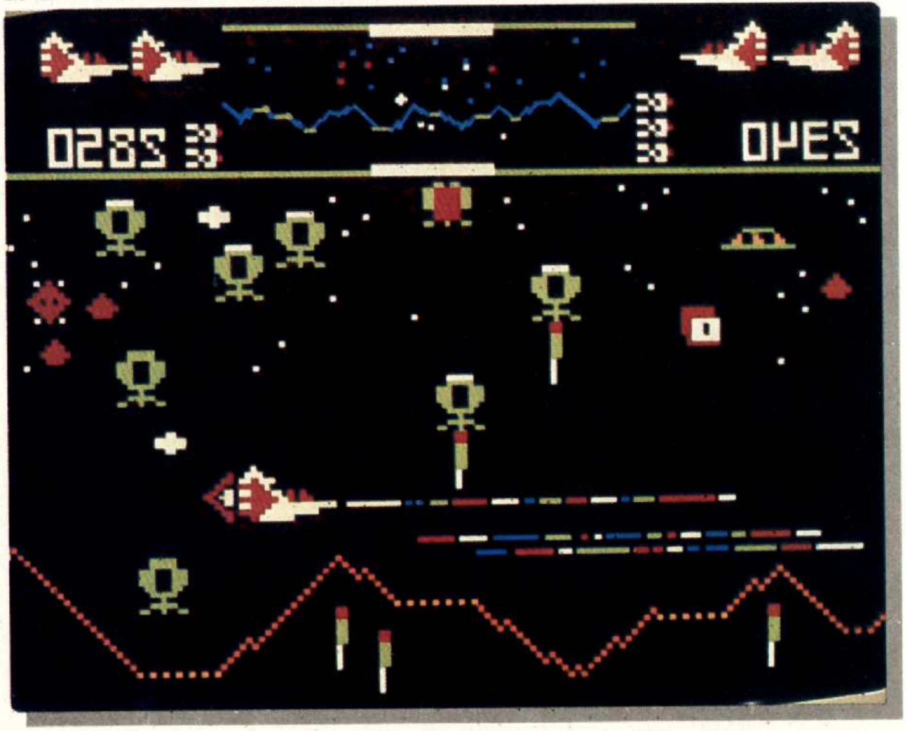
CIRCLE 20 ON READER SERVICE CARD

DEFENDER

BY ATARI FOR VCS AND 5200



BY MARTHA KOPPIN

DESCRIPTION

Atari's *Defender* is similar to the arcade game in action and strategy, but instead of the six controls found in the arcade game, the home version has only the joystick controlling all firing and maneuvers.

Basically, the game consists of your space ship (Defender) and aliens manning various types of spacecraft. They are intent not only upon destroying your ship, but also upon kidnapping the inhabitants of the city. (Apparently, they have been pretty busy, since there are only five humanoids left.) Once kidnapped, the humanoids are changed into mutants and return to earth to get you and eradicate all vestiges of civilization.

Since you alone are responsible for the protection of the city, your aim is to destroy the aliens and their ships.

Each alien spacecraft has different characteristics, which influence how you should attack them.

The pods pose no threat to you unless you bump into them or shoot them. However, they are worth 1000 points each, and you must destroy them sooner or later to progress to the next wave of aliens. When a pod is shot, it breaks into two swarmers which appear instantly, often very close to Defender. Frequently, they fire at the same moment they appear, giving Defender no chance to get off a shot. This seems to happen most frequently when the pod is shot at mid-screen; by waiting to fire until the pod is at the very top or bottom of the screen you often get a few seconds to home in on the swarmers before they attack you. Swarmers are the marksmen of the alien fleet and seldom miss.

Bombers pose no real problem as long as you don't bump into their airborne mines.

Baiters are small, thin ships that are almost as tenacious as the mutants but harder to hit. Since you can fire only horizontally, your activity is like trying to sink an oncoming torpedo.

Landers move predictably, and only a few will fire in the general direction of Defender. Accuracy is not their strong suit. However, since the shots are not too difficult to dodge (although periodically a shot will home in on Defender and thwart her evasive tactics), there is a danger that you will become careless and get blasted.

The landers cannot fire horizontally or vertically; they must always fire at an angle. This is important when you are trying to rescue a humanoid. If you can stay abeam of the lander as it ascends with its prey, you can destroy it at close range and catch the humanoid. The only problem occurs when you get too close and bump into the lander as it is trying to make its escape; you will destroy lander, humanoid and Defender in one fell swoop—not a cost effective move.

Mutants are the most obnoxious of all, showing no mercy to the one who tried to save them from a fate worse than death. They are faster than Defender and tenaciously dog her as she attempts to complete her mission. The first mutants do not seem as nasty as those which appear later on in the game; they move slower and periodically slide off-screen, where they pose no threat. The later mutants are almost impossible to avoid, and the only effective defense is to move around quickly, firing in an uninterrupted stream.

Above Defender and the aliens, at the top of the screen is the scanner. This gives you advance warning as to the position and number of oncoming aliens.

WITH SOME PRACTICE YOU WILL BE ABLE TO DETERMINE WHAT IS GOING ON AT VARIOUS POINTS IN THE CITY.

At first it will look like nothing more than video snow; however, with some practice you will be able to determine what is going on at various points in the city. When a blip goes off the scanner screen at one end, it reappears at the other side. You must dispose of each alien. Don't be fooled into thinking that once they fly by they are gone forever—no such luck.

The scanner also provides information on the number and location of any remaining humanoids; they appear as small dots on the bottom of the scanner screen. If you keep an eye on the scanner, you know at once the direction in which to fly to rescue a kidnap victim. A lander with a humanoid attached looks like a double image rising vertically on the scanner screen.

Learn to use the scanner; as the game progresses, it is the only way to be at all prepared for attack.

Only one lander at a time will attempt to kidnap a humanoid. Every lander is a potential kidnapper, but the particular one assigned to the task at the moment moves in a slightly different way. The non-threatening landers move in a slightly diagonal track; progressing steadily across the screen in the opposite direction of Defender and descending at the same time. A kidnapping lander moves straight down over a humanoid, and when he has made contact, rises straight up. The abducted humanoid is visible, hanging on below the lander, flashing and presumably shrieking in terror!

THE ABDUCTED HUMANOID IS VISIBLE, HANGING ON BELOW THE LANDER FLASHING AND PRESUMABLY SHRIEKING IN TERROR!

Joystick Controllers

The joystick controls the altitude, direction and speed of your fighter plane. Altitude is controlled by the vertical movement of the stick, and direction is determined by moving it to the left or right. Speed is increased by increasing the horizontal movement; to brake, simply pull the stick in the direction opposite of that in which you are flying.

To enter hyperspace, move the fighter all the way to the top of the screen and press the red button while exerting vertical pressure on the stick. The spaceship will disappear and quickly reappear in another location. This is not a particularly useful maneuver, since you cannot control where the ship reappears.

A more strategically valuable move can be accomplished by simply pushing the fighter off the top of the screen. It becomes invisible (and therefore invulnerable), and will reappear at the same location when you pull the stick toward you.

These same actions bring about a different result when performed at the bottom of the screen. When you move the ship down into the city, it again becomes invisible, but when you press the red button every flying thing visible on the screen is obliterated. This is the detonation of the Smart Bomb. Obviously, this is the most powerful weapon at your disposal; unfortunately, you are given only a few of these beauties, so they must be used frugally.

The red button is also used for straight firing and to reset the game.

Start with the difficulty switch on B, giving Defender a little more speed to outmaneuver the aliens. The A setting is for later (much later) when you need an extra challenge.

Scoring

The point value for destroying the various aliens is as follows:

Pod	1000 points
Swarmers	500
Bomber	250
Baiter	200
Mutant	150
Lander	150

Shooting a lander which is in the process of abducting a humanoid, and bringing the humanoid safely back to earth results in an extra 1000 points. Shooting a lander and catching the humanoid in mid-air is worth an extra 500 points.

If you shoot an abducting lander before it takes the humanoid above the bottom third of the screen, the humanoid will fall safely to earth even if you can't catch him. This results in an extra 250 points.

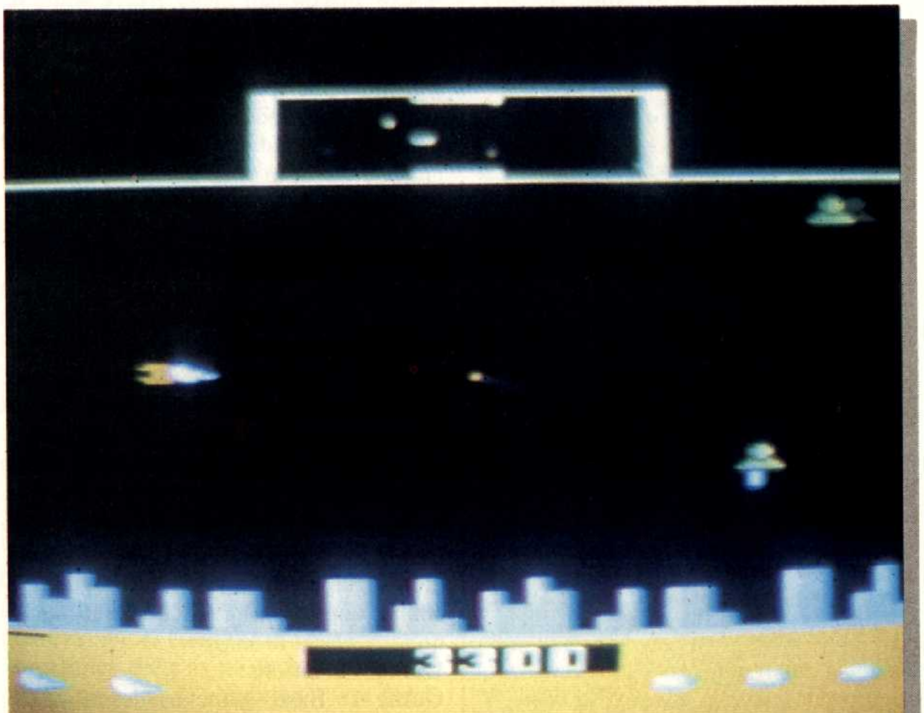
If you shoot the lander and let the humanoid fall from the upper portion of the screen, he splatters on the city and dies; you get only the 150 points for shooting the lander.

At the end of every wave of aliens, you are awarded 100 points for each humanoid remaining on earth.

Playing Strategy

At the beginning of each wave, if you fly east you will encounter a bomber, which is easy to take care of immediately. Then there will be two pods. Do not shoot these if they are in mid-screen; the resultant swarmers will be too difficult to avoid and Defender will meet an untimely end. Wait until the pods are at the very top of the screen, or let them go by completely, catching them next time they show up at the top of the screen.

Since the first wave of aliens moves fairly slowly, you may want to shoot



everything but the landers. This will give you the potential to rescue humanoids from each lander in this wave for 1150 points each (150 for the lander and 1000 for rescuing the humanoid), instead of the regular 150 for just shooting the landers. The bad news about this routine is that you may get yourself shot down because you are fooling around in the midst of a screen full of aliens. It takes a little practice to dodge the enemy fire and to catch the humanoids, but if you can manage it, you will add at least an extra 10,000 points to your final score.

One more way to maximize your score during the first wave is to leave one pod intact until the very end of the wave. This is because if the last ship shot is a lander, you will not get the chance to rescue the humanoid and get the 1000 points before Wave Two begins. So, leave the pod until last; it will still split into swarmers, affording the opportunity to score more points.

During the second wave, the kidnappers move much more quickly, making it very difficult to keep up with their activities. Shooting everything in sight is the strategy for this and every subsequent wave.

Each time you score 10,000 points, you are awarded an extra Defender (you start off with two extras) to replace one that has been shot down. At each 10,000 point mark you are also awarded another Smart Bomb. Do not use your Smart Bombs too freely, because you will need them as the going gets tougher. One appropriate place is when your score is close to a 10,000 mark and you are on your last life. Detonating the Smart Bomb at a point when the screen is filled with aliens will often put you over the 10,000 mark, giving you both another life and another bomb. Obviously, it is better to use a Smart Bomb than to lose your last Defender.

WHEN THE MUTANTS HAVE FINALLY TAKEN OVER, YOU CAN CATCH YOUR BREATH BY MOVING YOUR SPACE SHIP EITHER TO THE VERY TOP OR THE VERY BOTTOM OF THE SCREEN, UNTIL IT DISAPPEARS.

After every five waves of aliens, all of your humanoids are restored to Earth and the city is rebuilt (if it has been destroyed). This is important because after the last of your humanoids is kidnapped and changed into a mutant, the whole screen blows up, including the city, and you are alone with the nastiest mutants of all. If you can stick it out until the fifth wave, things will calm down and you can once again fight against the landers, bombers, and pods (but on a more difficult level).

When the mutants have finally taken over, you can catch your breath by moving your space ship either to the very top or the very bottom of the screen, until it disappears. In this position, your ship cannot be shot down, neither can it do damage to the mutants (unless you have saved your Smart Bombs—*I told* you you'd need them), so sooner or later you will have to re-enter the fray and face the music. That is, of course, unless you are going for the world's record for staying alive in Defender (boring!).

When you are cruising along during the first wave looking for a potential kidnapper, it is advisable to move Defender to the extreme top or bottom of the screen so you can move freely without getting shot or bumping into something. Even though you are invisible, you can still move the space ship back and forth over the city, looking for humanoids.

Since the mutants are definitely the greatest threat to your safety, it will pay you to keep at least one of your humanoids on earth so that you will not be subjected to the onslaught of mutants when the city blows up. To this end, it sometimes works to hover over your one remaining humanoid to protect him. If you can successfully keep the invaders away from him until the fifth wave is passed and the humanoid ranks are replenished, you will have bought yourself a little more time.

One final note: If this is all too frustrating for you at first, try Game 10 (children's game). It is good for beginning adults, and if you practice late at night, nobody needs to know . . .

Game Variations:

Game 1: Basic game as described above. Game 11 is the same, but for two players, alternating turns.

Game 2: Basic game but humanoid pickup speed is fast, as are the mutant and baiter speeds. Game 12 is for two players.

Game 3: This game has no city, no aliens—nothing but mutants. The scoring remains the same in that each time you hit a mutant, you are awarded 150 points. Therefore it is difficult to get extra Defenders or Smart Bombs; the points accumulate too slowly. The city is not restored after the fifth wave. These mutants are the nasty kind. Game 13 is for two players. Boring game variation.

WHEN YOU ARE CRUISING ALONG DURING THE FIRST WAVE LOOKING FOR A POTENTIAL KIDNAPPER, IT IS ADVISABLE TO MOVE DEFENDER TO THE EXTREME TOP OR BOTTOM OF THE SCREEN.

Game 4: Basic game but Waves One and Two are skipped; the game begins with Wave Three. Game 14 is for two players.

Game 5: Same as Game 4, but humanoid pickup speed and mutant and baiter speed are fast. Game 15 is for two players.

Game 6: Same as Game 3—mutants only—but begins with Wave Three. Game 16 is for two players. Just as boring as Game Three.

Game 7: Basic game but begins on Wave Five. Game 17 is for two players.

Game 8: Same as Game 7 but humanoid pickup speed and mutant and baiter speed are fast. Game 18 is for two players.

Game 9: Same as Game 3—mutants only—but begins with Wave Five. Game 19 is for two players. Still Boring.

Game 10: Children's version. (If it makes you feel better, we can call it "Novice Game".) Basic game but humanoid pickup speed and mutant and baiter speed are slow. Worth trying. ■

UPDATE

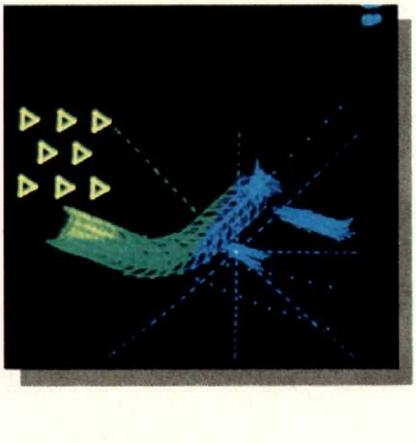
VECTREX: TWO GREAT GAMES/BY OWEN LINZMAYER

Last month my boss moved his Vectrex game system into my office, and within a week it had moved into my heart. Along with this self-contained vector graphics system, Dave left me a full complement of all of the available cartridges. I was happy to see among other well known names, two of my favorite coin-op titles, *Rip-Off* and *Armor . . Attack*. When I actually played them, however, I was elated.

Both *Rip-Off* and *Armor . . Attack* are adaptations of arcade games originally manufactured by Cinematronics; a coin-op company that filed for Chapter XI bankruptcy back in September of 1982. Regardless of how Cinematronics is doing financially, Vectrex owners can now enjoy the home versions of these two games available from General Consumer Electronics.

RIPOFF

The name of this cartridge in no way reflects the quality of the product itself. You see, the object of this game is to destroy marauding pirates who attempt to rip off your limited supply of fuel cells. The beauty is that it can be played by a lone player against overwhelming odds, or by two fighters who join forces to repel the computer-driven enemy ships. Either way, the human element is always outnumbered.



At the beginning of each game, four or eight (selectable) fuel pods are located in the center of the screen. Your trimlined ship materializes directly to the left or right of these cells. It has the ability to thrust, turn left and right, and fire explosive laser bursts. When the player-ships are in position, the enemy pirate ships begin their onslaught.

There are six different types of pirates. As soon as you have destroyed one group, a new backup arrives. Each new type is slightly smarter and significantly faster than its predecessor. If you manage to kill all six groups of pirates, you advance to a higher level in which all of the pirates have increased point values. All of the pirates are capable of stealing cells and firing destructive short range lasers.

To steal a fuel pod, a pirate ship must come into contact with the cell, attach a harness to it, and then drive off of the screen. You can save a fuel cell at any time by killing the enemy before it reaches the border. Once a pod has been lost, it can never be recovered. When all of the fuel cells are stolen, the game is over.

The thing that sets *Rip-Off* apart from most other games with two-player options is that in this one, both players are engaged in the game simultaneously. This forces the participants to agree on some ground rules; either they cooperate in the hope of living longer, or they vie greedily for every point.

The most common means of destroying pirate ships is to shoot them. It takes but one hit to blast the enemy into moon dust. Luckily, bullets fired from a player ship can destroy only pirate ships. This greatly reduces conflict between players. Sometimes there is no time to aim at a pirate; under such conditions, you must ram the enemy with your craft. Both vehicles will end up as a heap of rubble, but luckily you have an endless supply of ships. Points are awarded for each pirate killed, regardless of whether you shoot the enemy or ram it. The drawback to losing a ship is that it takes a few seconds before you re-enter combat—just long enough for a surviving pirate to run off with a fuel cell.

The Vectrex controls make playing *Rip-Off* especially enjoyable. To turn your ship, you have the choice of using either the small joystick, or buttons 1 and 2. I prefer the buttons because they resemble the coin-op control configuration. If two people are playing, a second controller is required. This is a definite drawback if you don't have an additional controller, but the requirement is clearly stated on the outside of the package. I recommend purchasing a second controller so that you can make full use of games that require two, in addition to having a backup on hand in case something happens to your original joystick.

As with all Vectrex games, each cartridge comes complete with a thorough rule book and a color screen overlay. The controls for the game are printed at the bottom of the overlay. This is standard on all Vectrex overlays, and is helpful should you lose the rule book. Unfortunately, the words Player One and Player Two on the *Rip-Off* overlay obscure the scores on the screen. Since the color overlay doesn't add much to the game, I tend to leave it in the box.

The sound effects really round out the game. When two vehicles collide, the

SOFTWARE PROFILE
Name: Rip-Off
Type: Defense game
System: Vectrex
Format: Cartridge
Summary: Fast-paced action
Price: $30
Manufacturer:
General Consumer Electronics,
233 Wilshire Blvd.,
Santa Monica, CA 90401

vivid graphic explosion is accompanied by a full-bodied crash that actually sounds like an automobile accident. In addition to this, there is a continuous pulsating beat that quickens as the number of remaining fuel cells decreases. During heated action, this tends to match your own heartbeat.

To enjoy this game fully, play it with a partner—preferably someone near your own level of skill. Two-player *Rip-Off* is one of my favorite games; I enjoy the feeling of cooperation. Teamwork is essential to good game play. Freedom of control, coupled with 16 game options, make *Rip-Off* a game of depth with which you will not soon be bored.

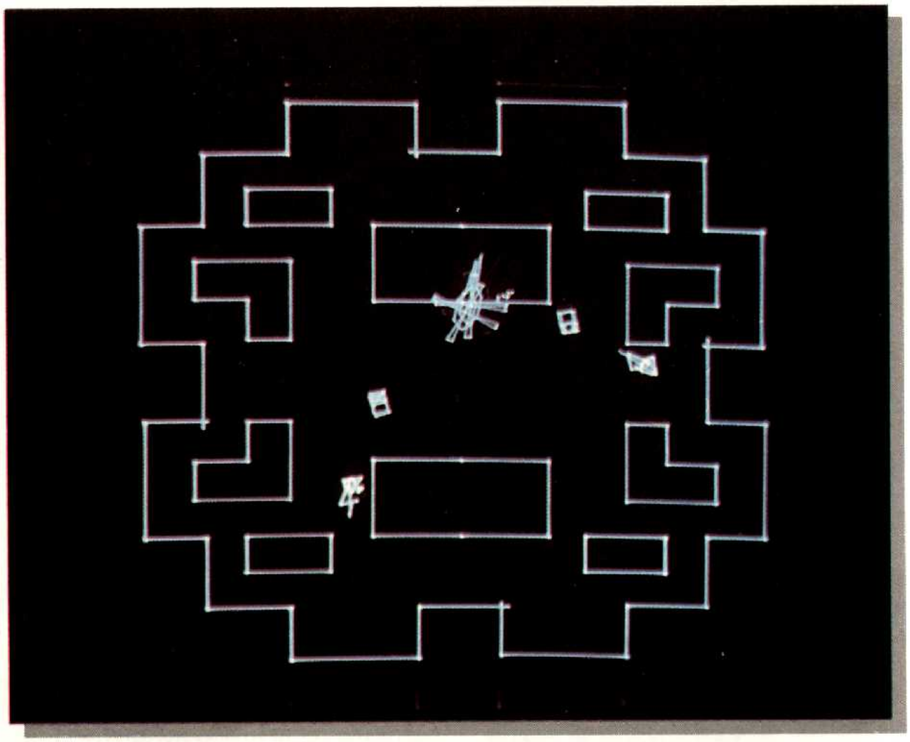
ARMOR.. ATTACK

Since *Armor . . Attack* originated as a vector graphics game in the arcade halls, it makes a beautiful transition to the Vectrex system. The programmers at GCE sacrificed nothing to bring this exciting tank game to the comfort of your own joystick.

You are in charge of a fleet of five missile launching jeeps. After days of fierce fighting, the enemy has finally crushed almost all remaining resistance. By playing a deadly game of cat-and-mouse in the alleyways of a small town, you must hold them off as long as you can; hopefully buying time for your comrades.

TANKS ARE UNBELIEVABLY DUMB. BY PASSING BETWEEN TWO TANKS, YOU CAN COAX THEM INTO FIRING AT EACH OTHER.

Your speedy little jeep is very maneuverable and has an incredible amount of firepower for its size. Unfortunately, after your first encounter with an enemy tank, you soon become hopelessly outnumbered. The tanks are heavily armored, which makes them big and slow, but also mandates that you shoot each one twice to incapacitate it thoroughly. The first hit on a tank merely disables it, allowing it to continue to aim and fire at your jeep from a stationary position. A second blast does away with a crippled tank. On the other hand, if your jeep takes one shot, it is obliterated. When all of your jeeps are destroyed, the town falls and the game is over.



Luckily, tanks are unbelievably dumb. By passing between two tanks, you can coax them into firing at each other. Tactics such as this can be employed during the first few minutes of play when things are relatively slow. Soon, however, a deadly helicopter comes to the aid of the enemy. While tanks are confined to the same playfield as your jeep, the choppers can fly above the ruined buildings out of your range. You can hit a copter only if it is out in the open, but this usually means placing yourself in a vulnerable position. When helicopters and tanks combine forces, it makes for a very challenging and exciting game.

One thing that you may do to even the odds is to enlist the help of an ally. During a two-player game, participants do battle simultaneously; allowing for a great number of strategies to be developed. As in *Rip-Off*, a second control panel is required for an additional player.

As you race through the streets of the village, you can actually hear the squeaking treads of the tanks as they labor in pursuit. The arrival of the helicopter is preceded by the ominous sound of its blades cutting through the smoke-filled air. It is attention to details such as this that makes *Armor . . Attack* a very captivating game.

There are three game options in *Armor . . Attack*. The "normal" mode of play is with the outlines of the buildings drawn on the screen, and buttons 1 and 2 used to fine tune your movement. The second option also has the buildings drawn, but buttons 1 and 2 can be used to steer your jeep instead of the joystick. There is no fine tuning feature. The third mode is similar to the second except that the buildings are invisible. You must know the layout of the town well before you attempt to play this option.

Armor . . Attack appeals to players who enjoy longer games that involve

SOFTWARE PROFILE

Name: Armor . . Attack
Type: Tank-battle game
System: Vectrex
Format: Cartridge
Summary: Realistic and fun simulation
Price: $30
Manufacturer:
General Consumer Electronics,
233 Wilshire Blvd.,
Santa Monica, CA 90401

realistic settings. Unlike *Rip-Off,* in which you are under constant pressure knowing that you will eventually lose, *Armor . . Attack* gives the impression that it can be played for a very long time, as long as you are skilled enough.

HELPFUL HINTS

In the course of reviewing *Armor . . Attack,* another editor and I spent a considerable amount of time trying many different strategies. Quite by accident we happened upon a discovery that we feel is worth noting.

Move your jeep along a wall until it becomes wedged in a corner. Then turn around so that you can shoot at anything that may cross your line of fire. As long as you stay in the corner, you are almost invincible. Enemy tanks and choppers can fire at your position, but for some reason, they have a difficult time hitting you. As the enemy attempts to shoot you, sit tight and pick them off. Although the protection provided by this position is not absolute, I once walked away from the game leaving six jeeps and a score of over 70,000 points.

FOR SOME REASON, THEY HAVE A DIFFICULT TIME HITTING YOU.

I ONCE WALKED AWAY FROM THE GAME LEAVING SIX JEEPS.

Obviously, there are many similar tricks that help us conquer video games. The above mentioned hint is only an example of the hundreds that are hidden in the games (home, coin-op, computer, and hand-held) that you and I play every day. If you come across a tip, secret, hint, trick, programming bug, or other useful piece of information, write it down and send it to us. We are eager to pass along these secrets, but we need your help. Write down your favorite hint and send it off. Of course, full credit will be given to contributors. ■

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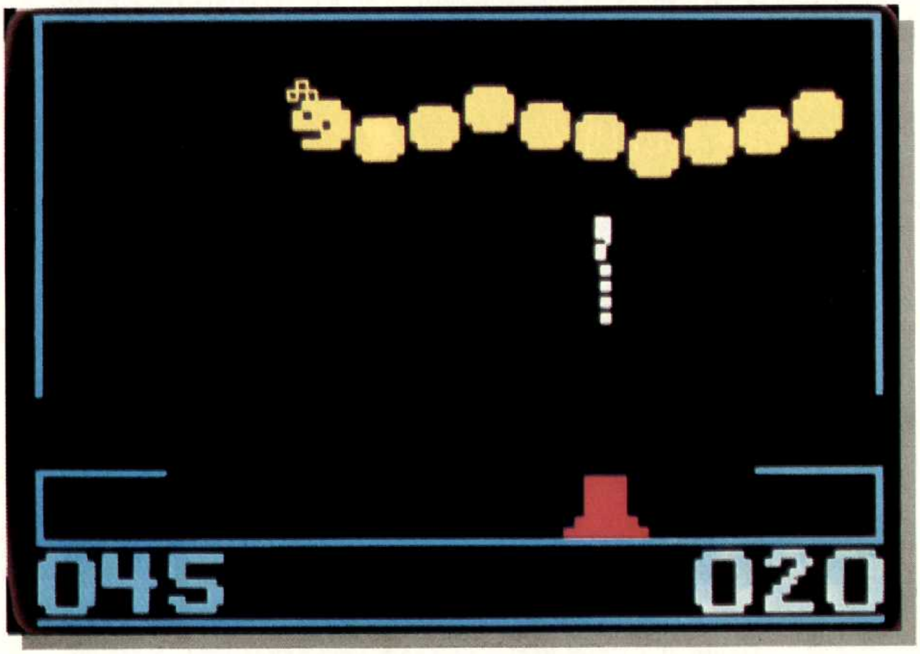


BY OWEN LINZMAYER

DESCRIPTION

Not only does The Voice module enhance the play of video games on the Odyssey^2, it is also used in educational drills where speech is essential. *Sid the Spellbinder* uses arcade action to capture the interest of younger children (age 6-10) as they learn to spell commonly used words.

Sid the Spellbinder can be used by one person at a time and has two levels of play. These determine how fast Sid the snake slithers across the screen, the amount of ammo you receive as a reward, and the difficulty of the words that you must spell. If you take too long to choose a level, the program defaults to the more difficult setting.

The game begins with Sid, a snake made of ten circular segments, slithering across the top of the screen as The Voice warns, "Monster attack, open fire!" You must move your cannon along the bottom of the screen and fire at Sid when he's above you by using the joystick and the red action button.

Points are awarded for each segment destroyed, and your score is displayed in the lefthand corner of the blue status box. Be careful not to waste missiles—every time you shoot, your limited ammo supply is diminished by one.

When Sid rushes overhead, you can always get off at least one shot at him. With each successive pass, Sid drops closer to the bottom of the screen where there are two exits from which he can escape. If Sid safely reaches either exit, he will chomp five of your reserve missiles for each of his segments that make it to the opening. When you run out of missiles, the game ends.

If you succeed in destroying the entire snake before it reaches the lowest level, you go directly to the spelling bee section of the game. In this part of the program, you get a break from the arcade action. The computer quizzes you on three words before you again do battle with Sid.

The Voice pronounces a word, and then asks you to type the spelling on the keyboard. Don't worry about having a generation of kids mimicking a robot's voice; this voice is masculine with a very distinctive mid-western accent. If by chance you didn't hear the word you are to spell, press the spacebar and it is repeated as many times as you need. As you type, a computer-like voice calls out each letter. When you believe you have the correct spelling, press return. If you notice a mistake, you are allowed to hit the clear key to start over again.

If the word you type matches the spoken word, you are awarded a certain number of bonus missiles. Should you, on the other hand, misspell the word in question, you are given another chance. After two mistakes, the computer takes it upon itself to spell the word slowly for you. There is no penalty for answering incorrectly; only the loss of a bonus.

Rather than one long drill after another, you return to the video game after each series of three words. This time Sid is faster, and he continues to pick up speed as he descends the screen. From here on, the two sections of the program continue to cycle until you run out of ammunition.

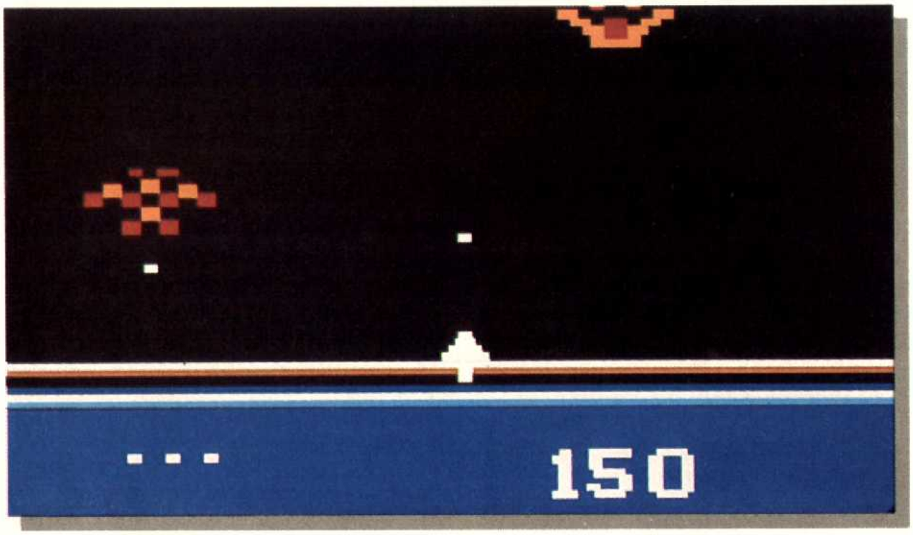
You receive two booklets along with the *Sid the Spellbinder* cartridge. The first is simply an instruction guide that briefly describes game play and helps you set up your Odyssey system. The additional booklet contains a 30-page story with Sid as the main character. The words that are found in the spelling program are used in this story in alphabetical order. Some of the more difficult words are footnoted with definitions. When read along with an adult, this helps the child understand how to use the words in context.

The educational value of *Sid the Spellbinder* is not to be overlooked simply because it is both a game and a drill. Sid is the perfect example of a constructive use for video games. By combining a simple, yet enjoyable arcade game with a spelling bee of considerable size (100+ words), the people at N.A.P. have developed a cartridge that can be both fun and a learning experience.

SOFTWARE PROFILE

Name: Sid the Spellbinder
Programmed by: Sam Overton
Sold by: N.A.P. Consumer Electronics
I 40-Straw Plains Pike
Knoxville, TN 37914
(615) 521-4316
Price: $39.95 (Cartridge)
Requires Odyssey^2 and The Voice module

DEMON ATTACK



BY ADAM THOMPSON

In a surprise move at CES, Imagic announced that it plans to support the Odyssey^2 game system. Their first offering, a conversion of the award-winning game *Demon Attack*, is quite possibly the best Odyssey^2 cartridge on the market today.

Demon Attack can be played by one or two people. Each player begins the game with four ships that are controlled with the joystick. Moving the stick moves your ship, and pressing the red action button fires a missile. In addition to the standard game, there are many options. Some variations include steerable shells and switching the control between the two players in the middle of a game.

When you have chosen the desired game option, two bomb-dropping attackers appear; one above the other. To advance to the next screen, the trick is to kill the uppermost one first, and then the alien on the bottom. The lower attacker is a guard that trails your every move. It sacrifices itself in an attempt to save the other alien. If you shoot the guard first, it is promptly replaced.

After you dispose of a group of multicolored attackers, a different set appears. Each type of alien has strange new characteristics and behavior patterns. As you battle deeper into the game, the aliens fight much more fiercely and increase the rate at which they drop bombs.

The thing that sets *Demon Attack* apart from the other games available for the Odyssey^2 is the outstanding graphics. The winged aliens that plague the sky are colorful and nicely animated. The one thing that I don't like is that when you fire a shot, it disappears momentarily at the center of the screen, and then rematerializes. Other than this, the graphics in *Demon Attack* are of the professional quality gamers have come to expect from Imagic.

By introducing *Demon Attack*, Imagic has become the first third-party software manufacturer for the Odyssey^2. Up until this point, only N.A.P. Consumer Electronics has designed programs for their game machine. It is ironic to note that Imagic has, on their first try, produced the best arcade game for the system to date. If you own an Odyssey^2, you can't afford to be without *Demon Attack* from Imagic. Also look for *Atlantis*, Imagic's second creation for the Odyssey^2. ■

SOFTWARE PROFILE
Name: Demon Attack
Type: Arcade
System: Odyssey^2
Format: Cartridge
Summary: A must-have
Price: $34.95
Manufacturer:
Imagic, 20665 4th St.
Saratoga, CA 95070

Games similar to *Demon Attack* for other systems

System	Game	Manufacturer
Apple II/II+	Falcons	Picadilly
Atari 400/800	Demon Attack	Imagic
Atari VCS	Demon Attack	Imagic
Intellivision	Demon Attack	Imagic
TRS-80 Model I/III	Demon Seed	Trend Software
Vic-20	Demon Attack	Imagic

REVIEW

OF INTELLIVISION II/BY OWEN LINZMAYER

Surpassed in number of units sold only by the Atari VCS, the original *Intellivision* is the second most popular game system in homes today. With the introduction of a revamped and less expensive master component, the *Intellivision II*, Mattel is trying to present "a whole new look."

In an effort to provide a more competitive system, the designers at Mattel have pared the unit down to the bare essentials. What is left is a very compact white plastic console (10" × 6.5" × 2.75") that is compatible with the majority of *Intellivision* cartridges already on the market. (For some reason, the game cartridges currently manufactured by Coleco Industries do not work with the *Intellivision II*. Efforts are being made by Coleco to correct this problem.)

The most notable feature of the *Intellivision II* is that unlike those found on the original system, the new controllers are detachable. This means that third party joystick manufacturers will be able to provide better controllers that plug right into the joystick port instead of requiring the user to disassemble the unit.

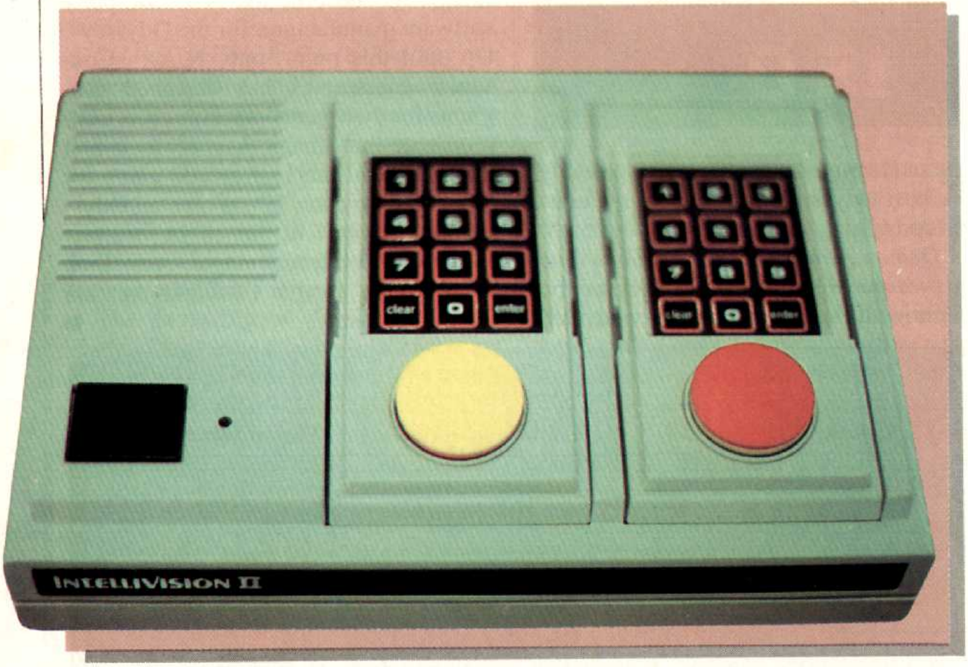
Unless you are a true glutton for punishment, you are bound to find that the disc controller of the *Intellivision II* is a real pain in the asteroid. Unfortunately for those who would like to install an Injoy-A-Stick, the controllers themselves can not be opened up. Until a new joystick is introduced, you can alleviate the problems created by the controller with a set of Thumb Saver disc cushions available from Video Masters of Mt. Clemens, MI.

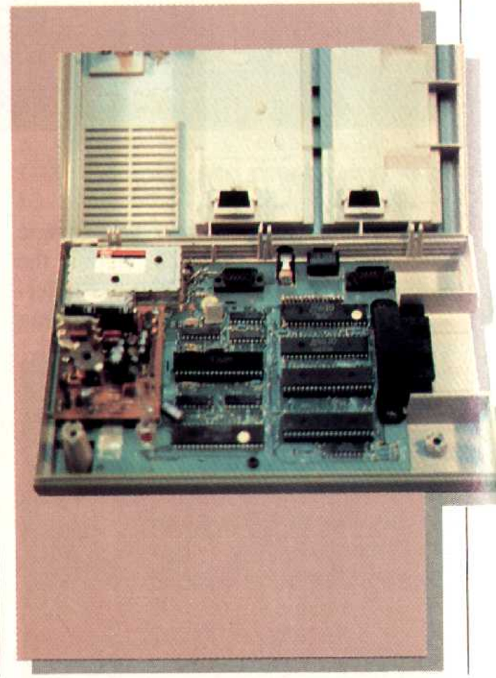
Aside from the directional disc, there is a 12-function keypad and a set of four action buttons on the controller. The plastic coated keypad offers no tactile response when pressed. The four buttons are positioned two to a side. Each button is addressed individually, which means that each can control a separate action. The cord that connects the controller to the master console is of the coil variety commonly found on telephone handsets.

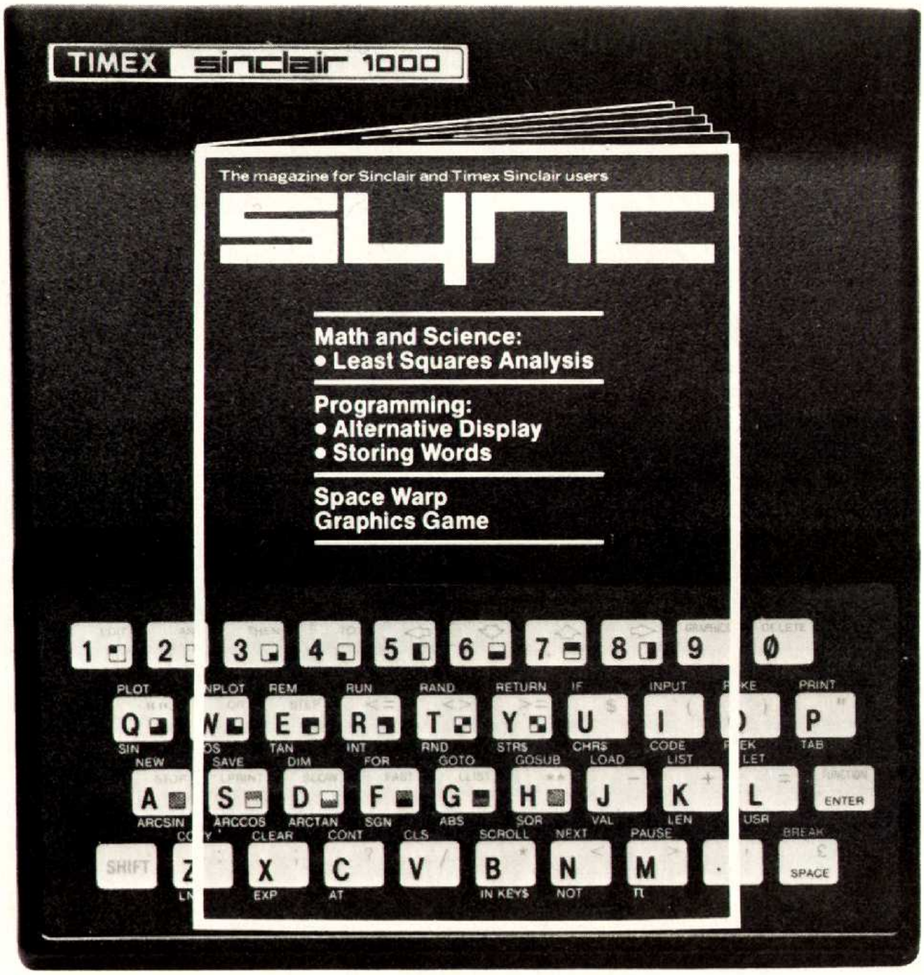
The cartridge slot is located on the righthand side of the unit. Since cartridges are inserted horizontally, there is no way for dust to build up on the edge connector inside. Both the old Intellivoice and the redesigned speech synthesis module can be plugged into the cartridge slot.

On the top face of the *Intellivision II* is a light emitting diode (LED) power indicator and a dual function button. I like the idea of the light to tell you that the power is on, but the button is another matter. The first time that you press the button, the master console is turned on. If you tap it at any time when the unit is on, the game in progress resets. This is fine. The thing that bugs me is that you must press the button down, and keep it depressed for three to five seconds to shut the system off. I would have liked to see two separate switches, one for power and another to reset, instead of this bothersome dual function button.

Both the video and power cables are detachable and plug into the back of the unit. The switch to select the viewing channel (either 3 or 4) is clearly marked and easily accessible. The *Intellivision II* package comes complete with a low voltage power transformer and a TV switch box to flip between regular television viewing and game playing. The 15-page owner's manual is detailed and







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has many illustrations to help you get your system installed and running. A rather extensive troubleshooting checklist and a copy of the 90-day limited warranty can both be found in this manual.

Mattel plans to support their new machine by introducing an Atari VCS emulator module sometime this summer. Coupled with the Expansion System A, the *Intellivision II* will be able to play any of the hundreds of Atari 2600 game cartridges on the market.

Also planned for release this year is the Entertainment Computer System which is really the long-awaited *Intellivision* keyboard. The ECS will feature a 16-bit micropocessor, 2K of random access memory (RAM), and the Basic program language residing in read only memory (ROM). The ECS is set to sell for under $150. ■

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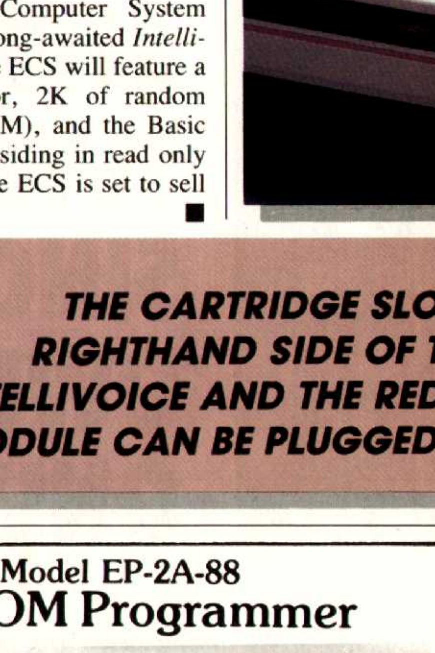

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by Mark Charlton

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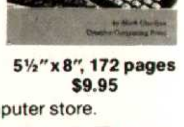

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SWORDS & SERPENTS

BY STEVE ARRANTS

Following in the success of the "Mazes-Monsters-Dungeons-Dragons" game genre, *Swords and Serpents* is a one or two player quest game.

The Warrior Prince must recapture his ancestral castle by collecting various treasures scattered throughout four levels, returning them to a store room on the first level. Along the way he battles Phantom Knights and Red Sorcerers. In the two player versions he is aided by Nilrem the wizard who uses his magical powers in tough moments.

The game begins in the Store Room on the first level. The Prince and Nilrem move along corridors searching for treasure. Phantom Knights, evil spirits able to move through walls, and Red Sorcerers, apprentice warlocks who spit fireballs, try to stop them. If attacked, the Prince defends himself with his enchanted sword and armor. A sword strike will vanquish a Phantom Knight. To defeat a fireball, the Prince must spear it head on—not as easy as it sounds. If hit by either adversary, the Prince and Nilrem lose half a life from the nine they began with.

SWORDS AND SERPENTS IS EXCITING AND WELL DONE. THE GRAPHICS ARE ONE DRAWBACK, HOWEVER.

Depending on the two-player version selected, Nilrem begins with no magic spells or four. The wizard can acquire extra spells by reading scrolls hidden throughout the castle. Spells can freeze Phantom Knights, destroy any enemy, heal the Prince, dissolve walls, and make the quest easier.

To get to another level (there are four) the Prince must pick up and use a key found on each level. As you descend through each level of the maze the perils increase, as does the value of each treasure. On the final level it is a continuous battle to pick up treasures while beating off Phantom Knights and Red Sorcerers. The final level also contains the lair of the Sinister Serpent. Find his lair and learn his secrets for extra points.

As with Bomb Squad, *Swords and Serpents* is a game that requires a long playing time. You might spend an entire afternoon playing and still not complete the entire game. *Swords and Serpents* is exciting and, on the whole, well done. The graphics are one drawback, however. Nilrem, for example, looks like a sick crab. The rules take a while to learn—expect to play on the first level before getting the patterns of play down. ■

BOMB SQUAD

Requiring both the Intellivoice Synthesis Module and the Intellevision Master Component, Bomb Squad is an exciting race against time.

The object of this outstanding game is to correctly guess a code number which will disarm the bomb. You select one to three digits to guess and any of three skill levels. A flashing code number display appears. Within this four-by-five grid is the secret code number. Use the disc to move the cursor over an element, press a top side button, and a circuit board appears. Frank, the demolition expert, tells you which circuits to repair or replace and in which order. Wire cutters are used to disconnect the circuit from the board. Pliers remove the part to the edge of the board and drop it off. Move the pliers to the top of the screen, select a new part of either the same shape or color and put it in place. A soldering iron connects it to the board.

After a successful repair, you are returned to the code number display. If the particular element you were working on is part of the code, it is lit in green. You may guess the code at this time. If you are correct, the city is saved. Guess wrongly and the bomb explodes and you lose the game.

Points are awarded for cutting out and replacing circuits, completing the repair, guessing the correct digit and for disarming the bomb. At succeeding levels of difficulty, the clock is faster, there are more parts to replace, and there is the chance that a circuit will catch fire.

BOMB SQUAD IS AN EXCELLENT ALTERNATIVE TO THE CHASE, CLIMB, AND DESTROY GAMES ON THE MARKET.

The graphics, sound, and execution are amazing. Bomb Squad is an excellent alternative to the chase, climb, and destroy games on the market.

A properly tuned color T.V. is a necessity. Some colors are subtle variations. Without a properly tuned set, one color can look like another.

I hesitate to call Bomb Squad a game, since it is more of a puzzle. Patience, skill, a good memory and steady hands are essential for completing this game. ■

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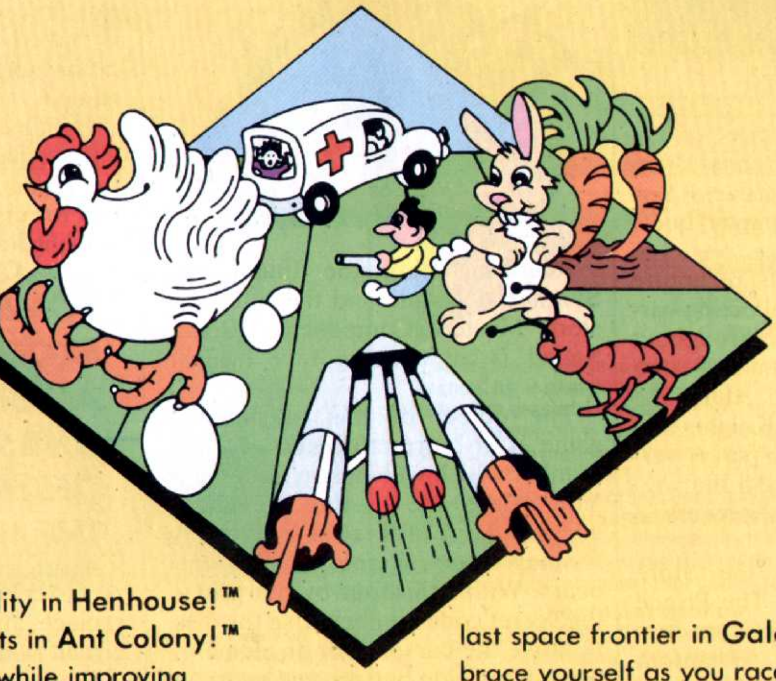

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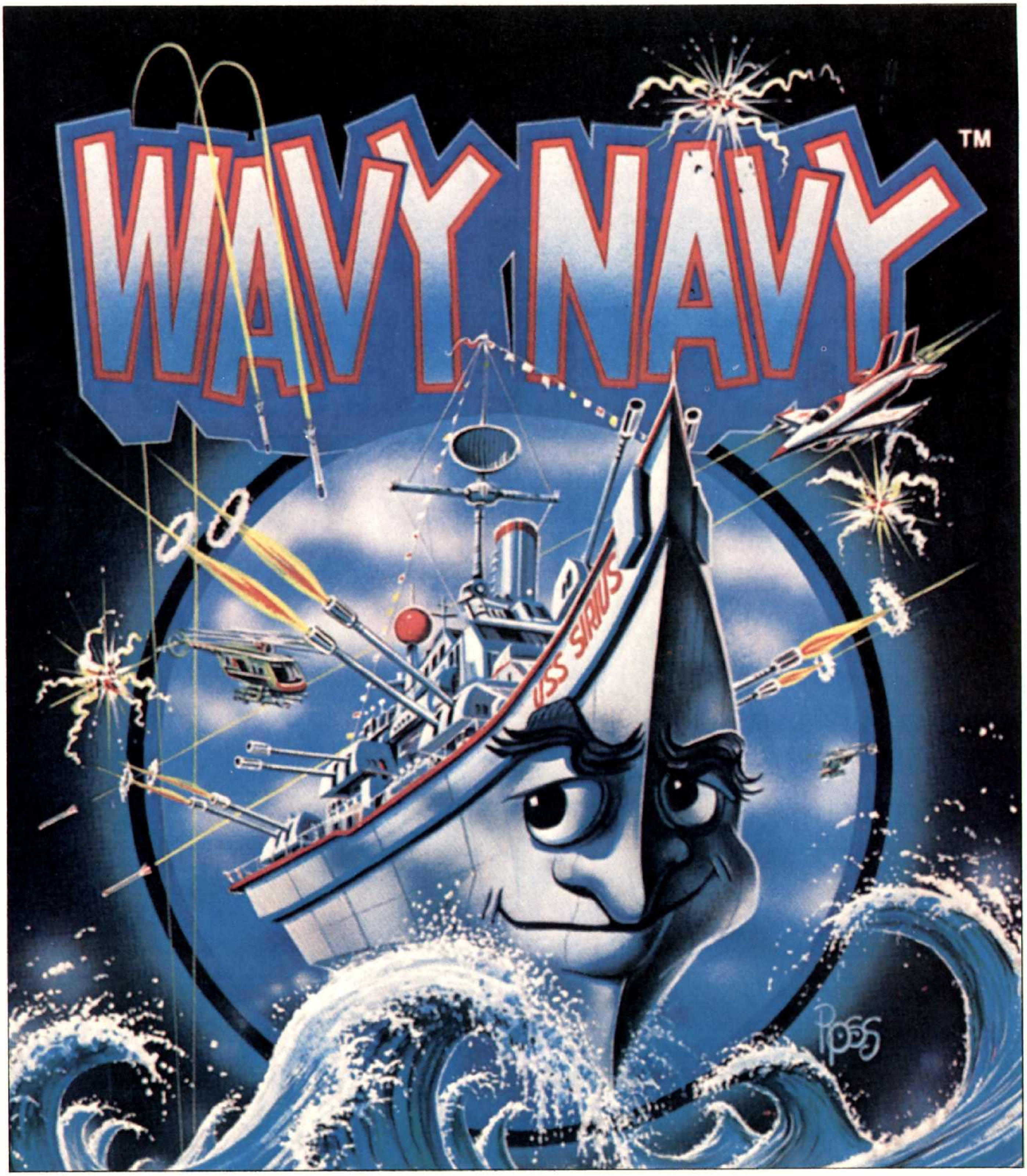

IT'S NOT JUST A GAME, IT'S AN EXPERIENCE / BY OWEN LINZMAYER

Looking for an interesting job? How about signing up for a tour of duty in the Wavy Navy. You'll sail under the proud flag of the USS Sirius and see the world (or at least everything that surrounds your Apple). Don't forget to bring your sea-sickness pills, you'll need them.

One of the best new programs introduced by Sirius Software is *Wavy Navy*, a machine language arcade game designed by Rodney McAuley. Using your small P.T. boat and the onboard cannon, you must dispose of as many enemy planes, helicopters, jets, and missiles as possible before they send you to Davey

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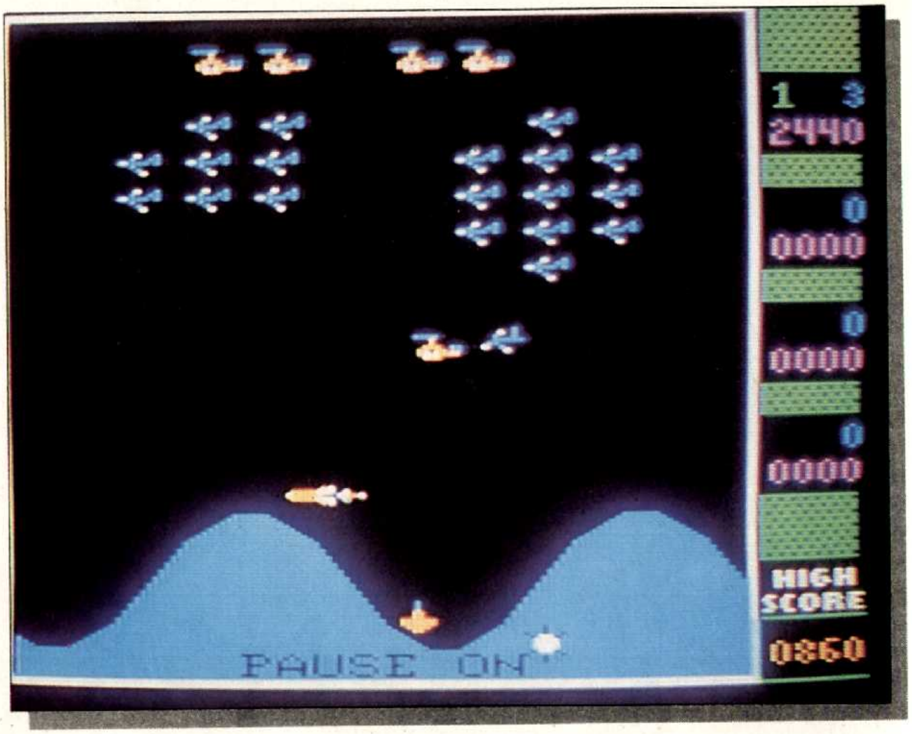
CIRCLE 23 ON READER SERVICE CARD

Jones's locker.

After the *Wavy Navy* banner is displayed, the menu screen is presented. You must choose one of three difficulty levels to determine the ferocity of the attacking enemy. A maximum of four people can play against each other, competing for promotions in rank. You also get to choose the type of controller you wish to use (paddles, joyport, or keyboard). If you don't want to bother your neighbors, you may elect to disengage the sound by sending it out the cassette port rather than through the speaker in the Apple. All of these options have default values so that you can jump right into a "standard" game by pressing the S key.

The computer waits for you to press a control before starting a battle. This is convenient, especially if more than one person is playing and a change of seating is desired. At the beginning of the first level, a large squadron of planes can be seen flying overhead. For a few seconds they remain in formation, but then some of them suddenly attack! These kamikaze fighters break away from the convoy and swoop down at your lone ship, dropping bombs all the while. If this was all *Wavy Navy* had to offer, I would concede that it was simply a Galaxian adaptation. But *Wavy Navy* has much more to tempt the gameplayer in you.



The first, and most important thing that you notice is that instead of simply moving back and forth across the ocean surface, the waves themselves actually oscillate. This causes you to bob up and down if you try to stay in one place. The direction and speed of the waves change from level to level, making each battle a new experience. If you head into the waves, your ship quickly climbs and swoops them down. If you don't fight the current, you cover more distance, but you have trouble maneuvering on the waves. Due to the constantly moving waves, the most difficult thing about *Wavy Navy* is trying to guess how your boat will react to your controls.

SOFTWARE PROFILE
Name of Package: Wavy Navy
Type: Arcade
System: 48K Apple II/II+
Format: Disk
Language: Assembly
Summary: Excellent
Price: $34.95
Manufacturer: Sirius Software,
10364 Rockingham Dr.,
Sacramento, CA 95827

In addition to the kamikaze fighters, helicopters armed with large-caliber machine guns also roam the skies in search of your ship. For the most part, choppers stay at the top of the convoy, but when they do come down to attack, look out, these guys are lethal! All you can do is shoot like crazy and hope that you hit them before they get you.

As you advance in level and rank, the enemy sends more sophisticated weapons after you.

The deadliest of these are the jets that cut through the sky dropping a steady stream of bombs in their wake. You also encounter Exocet missiles which streak through the battle, cruising just above the waves. Floating in the waves themselves are mines which further complicate your mission. These mines are deadly only when they are exposed. If a mine is covered with water, it is safe to pass over it. Mines cannot be destroyed, only avoided.

One enjoyable thing about *Wavy Navy* is that the difficulty of the game progresses naturally, not in giant leaps. The program slowly mixes and matches different forms of enemies to allow you to experience a variety of attack combinations before you are ultimately destroyed.

The graphics of *Wavy Navy* are superbly done. As the enemy planes swoop down for the kill, they twist and turn in a stunning display of aerial maneuvers. The animation of the helicopters and their machine-gun fire is also done very professionally. The explosions in the air are big, colorful, and long-lasting which makes the battle a bit confusing. Sometimes your target is completely blocked from view by a cloud of smoke. As you watch your boat bob and weave on the surface of the ocean, you almost feel as if you are out at sea.

Programmer McAuley has made good use of the sound effects capabilities of the Apple. During play, the speaker receives a thorough workout. Every little detail has been attended to, right down to the splash of a plane hitting the water, and the whir of the spinning helicopter blades. Each time you complete a battle, you are given an additional ship and a promotion in rank. This auspicious occasion is replete with appropriate musical accompaniment—more than ten different jingles in all.

I believe *Wavy Navy* has the potential to be adapted for the coin-op arcade. The undulating wave surface is an original idea and is combined successfully with a very challenging shoot-'em-up concept. But in case it never makes it to your local arcade, you can pick up *Wavy Navy* at your computer store. You had better hurry though, before the program is sold out. *Wavy Navy* is sure to be in great demand. ■

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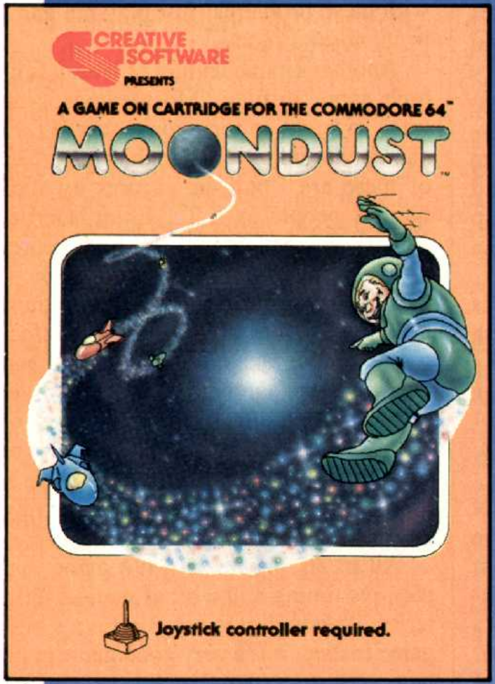
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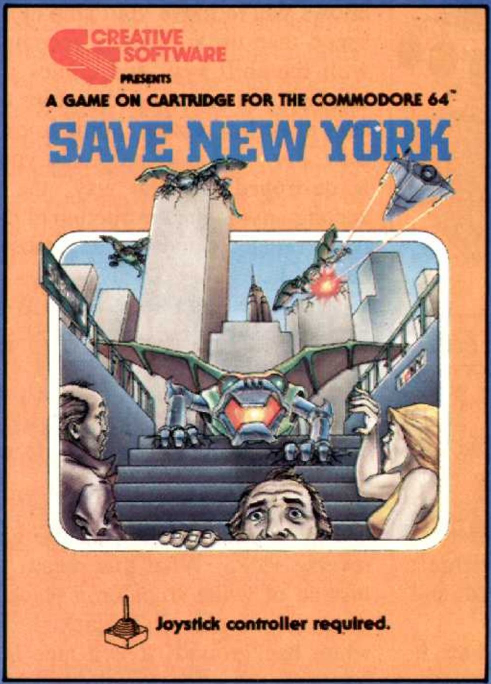
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SAVE NEW YORK
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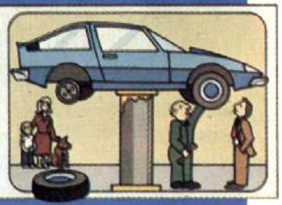

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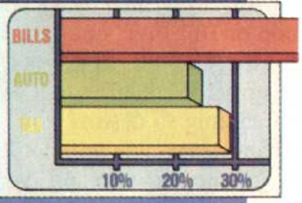
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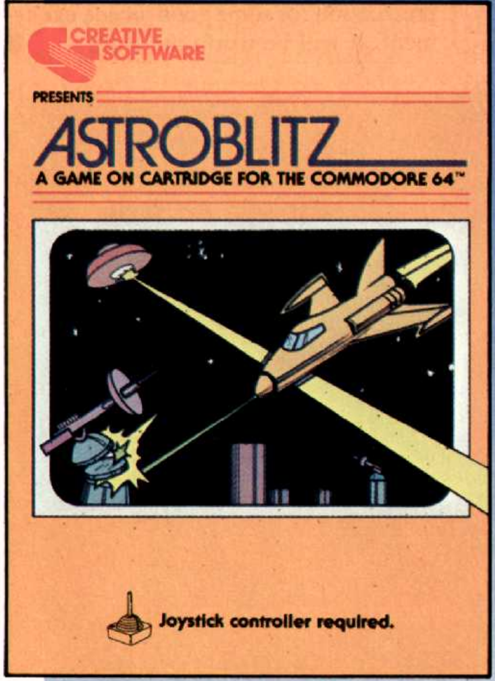
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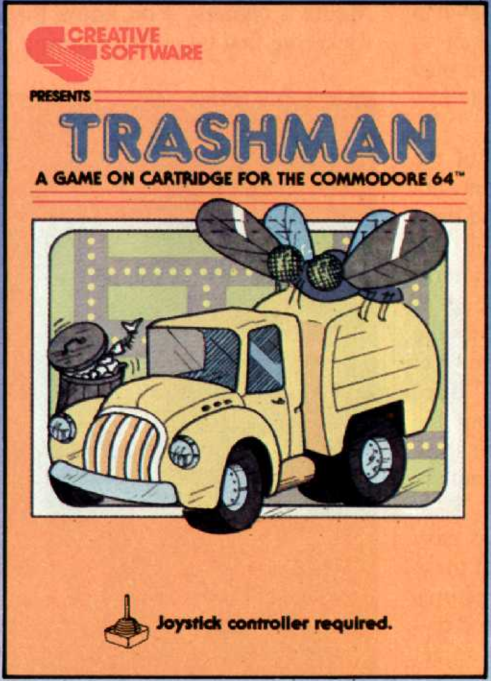
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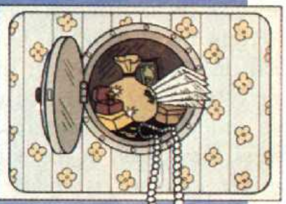

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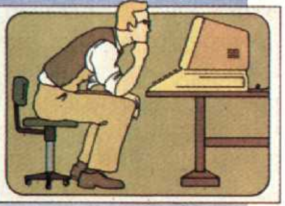

These Home Application Programs are also available for the VIC-20.

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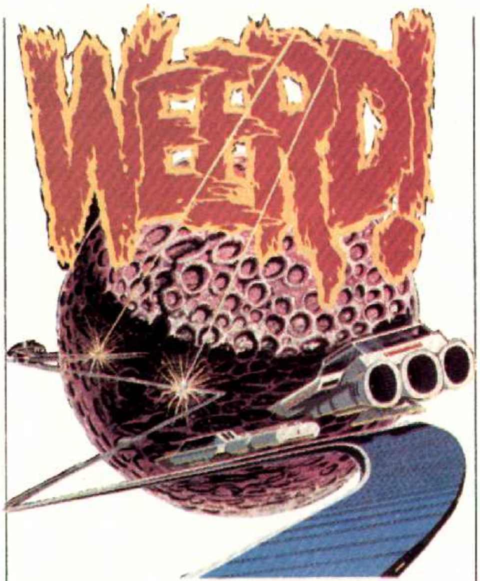


(BIG FIVE SOFTWARE)

BY MATT FRIEDENBERG

If there were a prize for the game whose title best describes the game itself, there is a program that would win it hands-down. In this game, you must destroy over a dozen different types of aliens, each one having its own distinct characteristics. It is one of the wierdest games that I have ever encountered, and it is called *Weerd*.

Weerd, written by Arthur Gleckler, is one of Big Five's newest arcade games for the TRS-80. In it, your mission is to destroy the creatures that swoop down in an attempt to destroy you. Sound easy? Chances are, you will not last more than a minute or two on your first few games.

You see, not only does each of the dozen or so creatures look different, but they also fly at different speeds and have different flight patterns. On top of this, each one has a different firing pattern. One type of alien is actually made up of five independent creatures all moving across the screen at the same rate. Yet another creature is made up of three parts. Two of these separate from the creature and try to collide with your ship. The third part fires a cluster of about six missiles down at your ship.

A group of missiles like this is easy enough to avoid, but picture two of these combined with five or six other creatures on the screen, all firing missiles and trying to collide with your ship. It can get very hectic. Fortunately, two features are included in the game to help you out of those tight spots when death seems imminent.

The first of these is the shields. Instead of having a protective shield around the ship as some games have, there are three horizontal shields behind which you can hide. Unfortunately, the shields protect the ship only from enemy missiles, not from the enemy creatures themselves. The shields stay up for a few seconds, but you get only three of these for each ship.

A second feature of the program allows you to move your ship at a faster speed than usual. This is accomplished with the shift key, and comes in very handy if you have to dodge ships or missiles at the last minute. Sometimes, however, even this is no help, and your ship is destroyed. By the way, the sound accompanying the destruction of the ship is very realistic and sounds almost like a car crash.

My major complaint about *Weerd* is its speed. When the screen is filled with creatures, the game moves at a fairly slow rate. Of course, this is a problem with the TRS-80, not the software. Nevertheless, it does detract from the game.

One of the unique characteristics of *Weerd* is the ability to play the game in reverse video. What this means is that instead of white ships on a black background, you play with black ships on a white background. It is a nice feature, but there are a few problems with it.

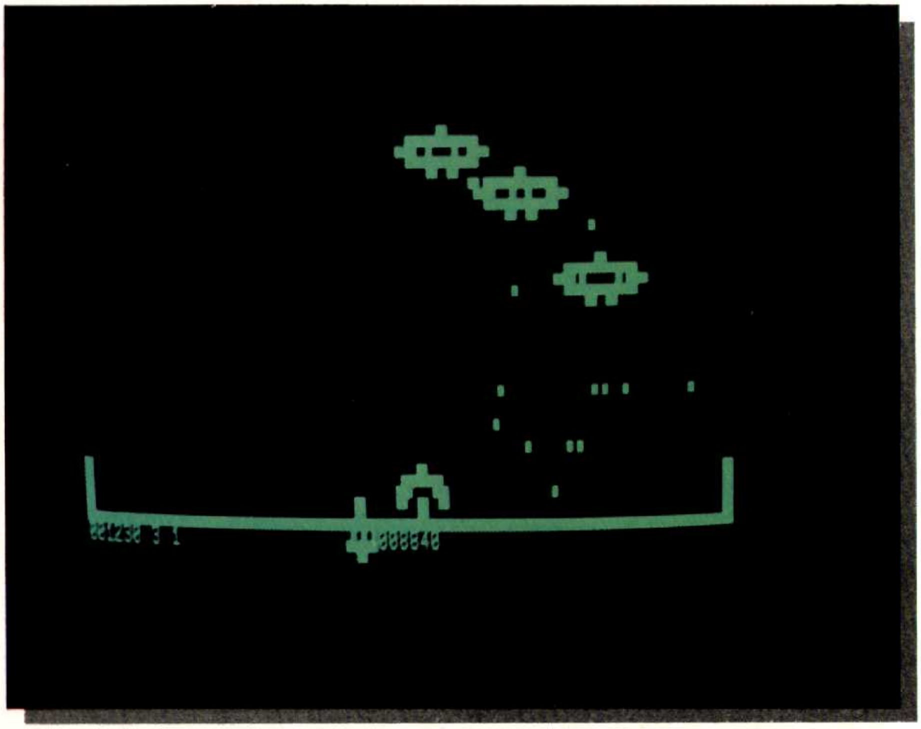
The first problem relates mostly to Model I owners. You know that nasty flickering that takes place during an animated game? Well, it exists in the game itself, but it is greatly intensified with the reverse video.

The second problem is that the reverse video slows the game down even more. This is simply because there is more for the computer to draw. Sure, the program is written in fast machine language, but even this has its limitations. Of course, if you do not want to cope with these problems, just play the game in its normal mode.

Another unique feature of *Weerd* is its high score display. Most games keep track of eight to ten scores, but *Weerd* can handle up to thirty high scores. Ten of these are "built-in" scores by such famous people as E.T., Elliot, Gertie, Bounty B., and Mork. All high scores are saved to disk on the disk version.

Weerd is a game for which you must get a feel before you can play it effectively. It will take quite a few short and very embarrassing games to learn about and get used to the different types of creatures. Eventually, you will discover the best way to destroy each enemy creature, and it is then that you start getting your money's worth out of the game.

All in all, *Weerd* is a fun game that requires timing and a bit of manual dexterity. Although it is not Big Five's best game to date, it is a very good game in its own right. I recommend it to anyone who is willing to lose a few games in preparation for some good arcade excitement. It will be worth the wait. ■



PEST PATROL

BY OWEN LINZMAYER

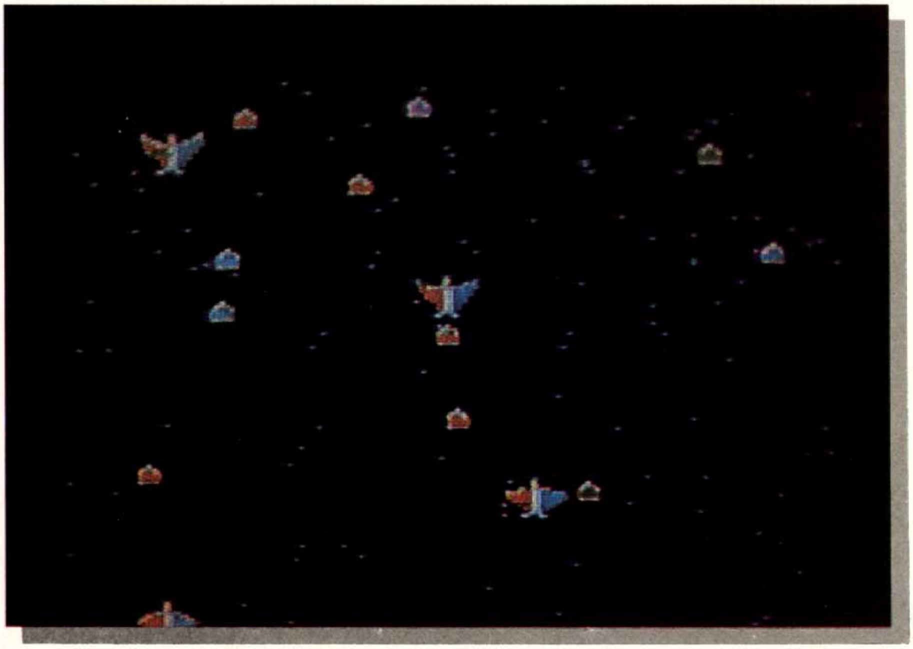
It's summer already, and you know what that means. Right at this very moment, the insect world is plotting against us. These bugs have plans to overpopulate and attack the human race. They'll soon be everywhere—in gardens, at picnics, on flowers, and hanging around lightbulbs at night. There is only one thing a public spirited citizen can do: arm himself with a can of insecticide and join the ranks of the *Pest Patrol*.

Written in machine language by Mark Allen, *Pest Patrol* is one of Sierra On-line's newest Apple offerings. Basically, this program is a shoot-'em-up game. Your can (shooter) is restricted to horizontal movement at the bottom of the screen; the insects swirl and swarm in the skies above you. The thing that makes it unique in a crowd of games with similar themes is that *Pest Patrol* has a staggering total of 40 different waves of insects.

Before you get into the thick of play, you must first set a few parameters. You have a choice of game controls: keyboard, joystick, paddles, or Atari joystick. I don't recommend using the keyboard because it is very difficult to come to a precise halt, and also because you can't re-define the control keys. A self-centering joystick works best for me. After selecting the desired controller, you set the speed of the action to either the fast or slow mode. When all of these details have been taken care of, you may play a practice game or a standard game. At the practice setting, you are given 77 cans, but you can't progress past level 29. You start a normal game with four cans, and an extra can is awarded for every 1500 points you earn.

Your shooter, a spray can, has an endless supply of insecticide, as well as the ability to shoot rapid-fire bursts. After a bit of continuous shooting, your firepower is cut drastically. If you cease fire for a short time, your can is restored to full strength.

When the game begins you must be on your toes, with finger twitching nervously above the fire button. As the bugs start swarming in the dark sky above you, blast away at them. The insects follow elaborate flight paths which are the same from game to game. This makes it easy to memorize where they enter the screen, and how best to dispose of them. Each time you eliminate an attack wave, you advance to the next level. Levels are distinguishable by a change in the behavior of the bugs. Most of the 40 levels of play are significantly different from one another, but some do repeat, although they are spaced so far apart that the game isn't repetitious.



As you exterminate the pests, you must be wary of the insidious tricks that they have in store for you. The bugs are armed with an arsenal of bombs—four different types in all. Simple bombs are thrown directly at you, and they explode on impact with the ground. Homing bombs are a little more aggressive; they move diagonally across the screen, following the movements of your shooter. Time bombs fall like simple bombs, but they remain at the bottom of the screen for a short period of time, waiting for you to run into them. After a few seconds, these bombs explode harmlessly. Homing time bombs combine the dangerous natures of both the homing and time bombs into one very deadly package. Coming in contact with anything except a snail causes instantaneous death, which sends you back to the beginning of the previous level.

Aside from the baffling number of attack waves, another impressive feature of *Pest Patrol* is the excellent use of the hi-res graphics. The squirming bugs are animated with detailed movements that give them a realistic, life-like appearance. If we are to be safe during our patio cook-outs, you must overcome a variety of pests.

In addition to the seemingly harmless bugs such as butterflies and snails, *Pest Patrol* is replete with more disgusting forms of low-life: worms, spiders, fleas, and beetles. Some insects look so creepy that they may elicit cries of "ick!" from the younger gamesters.

Pest Patrol offers even the most determined and skilled player a great challenge if he wants to get a peek at the attack waves that lay beyond level 30. For those who have enjoyed only minimal success at other shoot-'em-ups, *Pest Patrol* can be played at the slow setting in the practice mode, insuring longer game play.

I continue to enjoy this game because it has something that many other programs need desperately: variety.

MICRO PINBALL WIZARDRY

BY JOHN J. ANDERSON

Many parallels have been made between the advent of videogames and the advent of pinball. Concerned citizens once warned about the dangers of pinball, just as they warn of the dangers of the videogame today. It has been said that the advent of coin-op videogames sounded the death knell for pinball. However, true pinball types have no love lost for the videogame.

It is a rich irony, I then suppose, that pinball has become such a popular subject for videogame simulation. Serious pinball simulations began with Bill Budge's *Raster Blaster* for the Apple, which became one of the most popular programs of 1981. Budge showed that a pinball simulation could be refined to a point where it carries nearly all the excitement of the real game.

I, for one, never mourned the passing of pinball (if in fact it has passed away). The reason: I was never really much good at it—at least compared to the scoffing arcade wizards who usually flanked me as my five balls flashed by in seconds. Then I would step back and watch one of them rack up a million points or two.

RASTER BLASTER

It was a different story, though, in the privacy of my own home. There I could play as many games as I wanted, to refine strategy and learn the "feel" of the flippers. I was taken with the realism of *Raster Blaster;* after a couple of games it is tough to remember you are playing the game on a microcomputer, and not a pinball machine. The two levels of difficulty offered by the game managed to foster an addiction that kept *Raster Blaster* at the front of my game software box for some time.

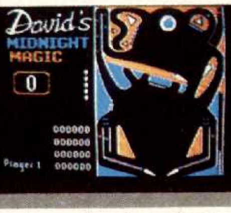
You can still buy *Raster Blaster*, and any true pinball simulation afficionado will want it, if mostly for archival purposes. *Raster Blaster* set the standard by which other games must be measured.

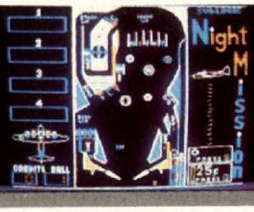
DAVID'S MIDNIGHT MAGIC

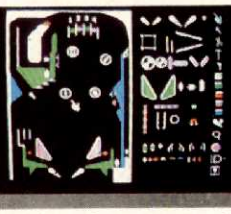
When I joined the magazine, I discovered I wasn't the only one with a penchant for microcomputer pinball. Soon after, *David's Midnight Magic*, by David Snider, came on the scene, and stole our hearts away.

Though quite clearly based on many of the same concepts that brought *Raster Blaster* great success, *Midnight Magic* is more fun to play. Its two sets of flippers create a much more exciting scenario, and present opportunities for "finesse moves" that transcend mere scoring. The addicted among the editorial staff began assigning style points to various successfully executed pinball maneuvers. An entire new vocabulary sprang

Raster Blaster







up spontaneously to describe various moves. I dare mention none of its unorthodox notation here.

For sheer playability and addictive value, *David's Midnight Magic* has yet to be beat. It was the first simulation to include a "tilt" feature, which added richly to its appeal, along with the ability to save high scores to disk. Though it has only one play mode, that one is enough for months of enjoyment.

Another feature I like is that the program uses paddles for input in the Atari version, as opposed to joysticks, the way *Raster Blaster* does. The paddles are much easier to control, and pushbutton action is faster. Of course if you don't have paddles, the news may not sit so well that they are in fact mandatory for playing *Midnight Magic*.

NIGHT MISSION

With the advent of *Night Mission*, I thought the limit had been reached. Bruce Artwick, who has nearly single-handedly set the standard for microcomputer flight simulation, created a pinball program that is fully reconfigurable. That is to say, if you don't like the way it plays, you can make it play differently. Very differently.

The program is, in fact, a *tour de force* in user configurability, and Artwick's commitment to realism is positively, well, obsessive. The user may redefine the forces of gravity, bounce, friction, ball speed, flipper power, tilt sensitivity, as well as screen color and virtually every other factor affecting game play. In addition to this, altered play modes can be saved to disk, along with high scores. Nine play modes are provided, and another 100 can be configured by the user. Sound like enough flexibility? Bear in mind that the two-screen adjustment menu includes variables like left V threshold, velocity X, velocity Y, and right V threshold.

Enough is going on in any game of *Night Mission* to keep the player busy at all times. There is a theme at work, too: that of a World War II nighttime bombing run. This really gives you the feeling of playing an old-fashioned pinball game, where a story takes place. I only wish it had a second set of flippers.

Though joysticks are the preferred peripheral in the Atari version, *Night Mission* can also be played very effectively from the keyboard, and in fact this gives better access to the tilt capability.

PINBALL CONSTRUCTION SET

Not wishing to be outdone, and having in *Night Mission* quite a tall order to top, Apple graphics master Bill Budge struck back recently with *Pinball Construction Set*. My mind boggles to think of anyone topping this latest feat. Budge took the concept of configurability a step further—he wrote a program enabling the user to easily design entirely original pinball machines—and save them to disk.

Designing your own pinball games is as much or more fun than actually playing pinball on them, and *Pinball Construction Set* makes the process a breeze. Using your joystick as a "mouse," you move the gloved pointer around the screen, picking up and moving parts around at your own whim and fancy. The program uses a system of pointers and icons similar to that used on the $10,000 Apple Lisa machine.

The process of game construction can be as naive or sophisticated as you please. But if you get serious about it, serious tools are available to you. These include tools to shape and paint the board, magnify areas for detailed work, reset point and bonus values, and alter gravity, speed, and bounce.

Multi-flipper games (for which you may by now have sensed my preference) can be created with no difficulty. But creating a game that has that special "something," like *Midnight Magic*, will take more than a bit of trial and error experimentation. Testing a prototype is easy and mandatory. After it has been refined to the point where it really plays, and you want to save it, it can be copied to disk as a unique and self-contained pinball program.

Pinball Construction Set is not as yet available for the Atari computer, but there is no reason to doubt that it will become available in Atari format soon.

Years from now, your kids may ask you about that strange program you still boot from time to time on your old Apple II or Atari. It will be a bit difficult to explain that the game is a simulation of an ancient, mechanical arcade game, long since obsolete. What will be easier to explain is why you've kept it around; simply let the kids try it. ■

SOFTWARE PROFILES

Name: Raster Blaster
Type: Pinball simulation
System: 48K, Apple II, 48K, Atari 400/800/1200
Format: Disk
Language: Machine
Summary: The pinball simulation that started it all.
Price: $29.95
Manufacturer:
Budge Co.
428 Pala Avenue
Piedmont, CA 94611
(415) 658-8141

Name: David's Midnight Magic
Type: Pinball simulation
System: 48K, Apple II, 48K, Atari 400/800/1200
Format: Disk
Language: Machine
Summary: Still the most playable micro pinball.
Price: $29.95
Manufacturer:
Broderbund Software
Two Vista Wood Way
San Rafael, CA 94901
(415) 456-6424

Name: Night Mission
Type: Pinball simulation
System: 48K, Apple II, 32K, Atari 400/800/1200
Format: Disk
Language: Machine
Summary: Obsessive commitment to configurability.
Price: $29.95
Manufacturer:
SubLogic Corp.
713 Edgebrook Dr.
Champaign, IL 61820
(217) 359-8482

Name: Pinball Construction Set
Type: Pinball simulation
System: 48K, Apple II
Format: Disk
Language: Machine
Summary: As much fun to make, as it is to play.
Price: $29.95
Manufacturer:
Budge Co.
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FOUR

GREAT GAMES FOR THE COLOR COMPUTER /BY OWEN LINZMAYER

Cheer up all of you TRS-80 Color Computer owners, quality programs are making their way onto the market. I have recently seen many professional quality games that I believe are worthy of praise. The most notable of these are *Doodle Bug, Starfire, 3-D Brickaway,* and *Donkey King*.

DOODLE BUG

In *Doodle Bug*, you move a hungry ladybug through a maze lined with dots while avoiding the predatory insects. Sounds a lot like Pac-Man, right? Well it is, and it isn't. The main difference between Pac-Man and *Doodle Bug* is that the former doesn't have rotating turnstiles. And what a difference they make!

Doodle Bug is an adaptation of LadyBug, a coin-op arcade game by Universal. The object of *Doodle Bug* is to clean out maze after maze of dots. There are other special elements scattered randomly in the corridors that can bring extra points of death. These include: hearts, letters, and skulls.

Doodle Bug is controlled with the joystick, and responds remarkably well to the slightest movement of the stick. After you have the game loaded and running, you never have to touch the keyboard unless you want to freeze the action, or abort the game in play.

One thing I really like about *Doodle Bug* is that the computer screen actually looks like a real arcade game, rather than a computer adaptation. *Doodle Bug* features four colors, and the highest resolution graphics I have seen on any Color Computer game. The graphics are very detailed, but the animation of the bugs is slightly jumpy.

One or two people can compete for high scores. Using the right joystick, you choose the number (3-6) of ladybugs with which you wish to begin in the game. This allows for both long and short games.

David Crandall, author of *Doodle Bug*, has done an excellent job of converting LadyBug to the Color Computer. The only change I would like to see made would be to have the aggressive bugs become quicker as the game goes on as they do in the arcade game. As it stands now, the speed of all of the elements remains constant throughout the game. Nevertheless, *Doodle Bug* is challenging and a very good buy.

SOFTWARE PROFILE

Name: Doodle Bug
Type: Arcade
System: 16K TRS-80 Color Computer
Format: Tape/disk
Language: Assembly
Summary: Adaptation of LadyBug, coin-op game from Universal
Price: $24.95/$29.95
Manufacturer: Computerware
4403 Manchester Ave., Box 668
Encinitas, CA 92024
(714) 436-3512

DONKEY KING

In the world of arcade games, 1982 was the year of Donkey Kong. Virtually no computer or home video game system is without a program that resembles the original coin-op game. Now, from Tom Mix Software, there is *Donkey King* for the TRS-80 Color Computer.

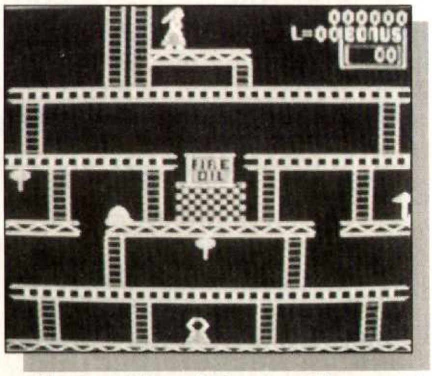
After evaluating many programs that run on the TRS-80 Color Computer, I had concluded that, at best, the Color Computer was capable of playing only mediocre games; programs of redeeming entertainment values were few and far between. But *Donkey King* has changed all that. It is absolutely the best arcade game written for the Color Computer.

In *Donkey King*, as in Donkey Kong, you portray Mario the Jumpman. It is your mission to rescue your girlfriend from the sinister clutches of a nasty ape. In your struggle to succeed, you must scuffle about on metal skyscrapers, jump elevators, and avoid fireballs. The path to the top is a hard one indeed.

Donkey King takes up a tremendous amount of memory (32K). This is because it has all four screens, like the original coin-op game, in one large program. The popular ColecoVision cartridge of *Donkey Kong* has only the first three screens. Not only does *Donkey King* have all of the boards, it presents them in the same sequence in which they appear in the coin-op game.

One or two players can compete, alternating turns. There are two game modes: regular and practice. If you choose the standard game, you begin with three men at your command. The practice mode gives you 12 lives. This may seem like a lot, but believe me, they sure don't last long.

The screens are almost identical to those of Donkey Kong, and the game plays similarly. Moving your joystick causes Mario to move around, and pressing the action button makes him jump in the direction he was running. *Donkey King* is one of the only Color Computer games that effectively uses the unfortunate Radio Shack joystick controllers.



The graphics of *Donkey King* are hi-res and about as colorful as any Color Computer game on the market. The animation of the elements is very professional—everything moves smoothly with very little flickering.

Donkey King has everything the arcade game has except an "insert coin" message. The sound effects are very good for the Color Computer, and every audio effect of the video game has been woven into this impressive program.

The one complaint I have about the game is that it becomes far too difficult too quickly. I have played many games in the practice mode, and rarely do I get to the fourth and final board (keep in mind that you get 12 men in the practice mode). The program would be greatly enhanced by selectable difficulty levels. As it stands, you often feel that your demise was not the direct result of your actions, but rather of the cruelty of the program.

It is difficult for me to communicate just how impressive *Donkey King* is. If I had to pick one program to show off the Color Computer, *Donkey King* would be it. If you call yourself a serious gameplayer, you can't afford to be without *Donkey King*—it alone sits on the game software throne.

SOFTWARE PROFILE

Name: Donkey King
Type: Arcade
System: 32K TRS-80 Color Computer
Format: Tape/disk
Language: Assembly
Summary: The best arcade game available for the TRS-80 CC
Price: $24.95/$27.95
Manufacturer: Tom Mix Software
3424 College N.E.
Grand Rapids, MI 49505

STARFIRE

Starfire is a colorful machine language game that combines hi-res graphics and interesting sound effects to create a very playable Color Computer version of the popular arcade game Defender. For the benefit of anyone unfamiliar with Defender, a brief description is in order.

In *Starfire*, as in Defender, you guide a multi-directional space fighter over the surface of an alien planet. Your goal is to protect the helpless people who pepper the planet's surface.

Although the packaging of the software is rather poor, it does not reflect the quality of the game itself. Included with the tape or disk is a single page of documentation which describes the controls, explains loading instructions, and gives strategy hints.

Starfire uses keyboard controls. Some of the other Color Computer versions of Defender I have seen use the joystick and all of them are much more difficult to control. If a coin-op game uses buttons, then the computer adaptation should use the keyboard, rather than the imprecise Radio Shack joysticks. The only problem with the keyboard controls is that the up and down keys (2 and Z) are too far apart.

The screen consists of three separate displays. In the upper left-hand corner is the score box. In addition to the onscreen scoring, there is a graphic display of the number of ships and smart bombs you have left. Located in the upper right is a small radar screen to help you plan your assault on the aliens before they show up on your viewer.

The main portion of the screen is devoted to the playfield. On the playfield you see your ship, the ground below, and any invaders that happen to be within firing distance. The scrolling of the landscape is extremely smooth and the alien movements are equally non-jumpy.

Starfire is an excellent adaptation of Williams's arcade classic. If you enjoy Defender, then this program is for you. I am pleased to report that *Starfire* is one of the first programs that uses all of the neat functions of the TRS-80 Color Computer. I hope that Intellitronics will introduce more games of this high standard. I truly enjoyed "reviewing" this game, and I suspect you will be equally pleased.

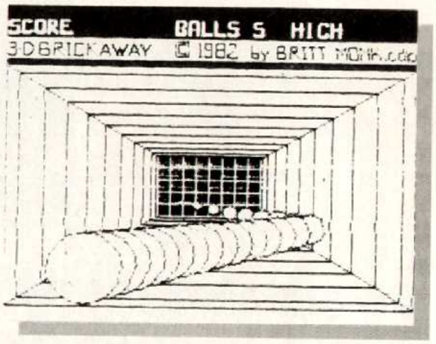
SOFTWARE PROFILE

Name: Starfire
Type: Arcade
System: 16K TRS-80 Color Computer
Format: Tape/disk
Language: Assembly
Summary: Adaptation of Defender, coin-op game
Price: $21.95/$26.95
Manufacturer: Intellitronics
22 Churchhill Lane
Smithtown, NY 11787
(516) 543-6642

3-D BRICKAWAY

Soon after joining the local YMCA last year, I took up a new sport, racquetball. Ever since I began playing, I have wondered if it would be possible to write a computerized game of racquetball. My question has been answered. *3-D Brickaway* is a variation of Breakout that is very similar to a single-player racquetball game.

The computer screen shows a three-dimensional view of five walls. The wall at the far end of the court is broken up into 40 tiles that must be knocked out.



You begin each game with five balls. Pressing the fire button on the joystick places a ball into play.

As the ball travels downcourt, its size decreases, giving the illusion of depth. When the ball hits a wall, it bounces off at logical angles. If the ball strikes a filled-in portion of the back wall, that tile is knocked out.

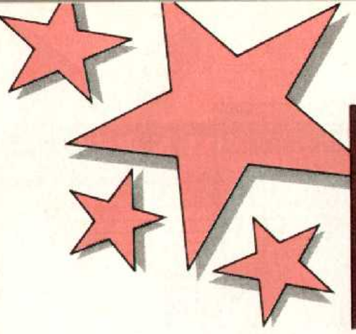
To hit the ball, you must manage to keep it in sight through the racquet. If you can do this, you will never have a problem returning the ball. There are two ways to hit the ball: simple deflection and power hit. A simple deflection occurs when the ball hits the paddle and bounces off wildly. For a power hit, you must have the fire button depressed. If you do this, you have more control of the ball, but its velocity increases.

The graphics in *3-D Brickaway* are high-resolution, but not very colorful. The movement of the ball is not as smooth as it could be; this is a case in which graphics were sacrificed for playability. The paddle responds quickly to the joystick controls, allowing you to get from one corner of the screen to the other in the blink of an eye.

3-D Brickaway is more than a game, it is an example of how three-dimensional graphics can be used on the Color Computer. The excitement of racquetball is lost in the translation from YMCA to computer screen, but *3-D Brickaway* is still a fun game to play and it is very reasonably priced. ■

SOFTWARE PROFILE

Name: 3-D Brickaway
Type: Arcade/simulation
System: 16K TRS-80 Color Computer
Format: Tape
Language: Assembly
Summary: Computerized racquetball
Price: $14
Manufacturer: Britt Monk, CDP
Box 802
Elyria, OH 44036



FIVE

GREAT GAMES FOR THE APPLE COMPUTER/BY DAVID H. AHL AND CHRIS VOGELI

SERPENTINE

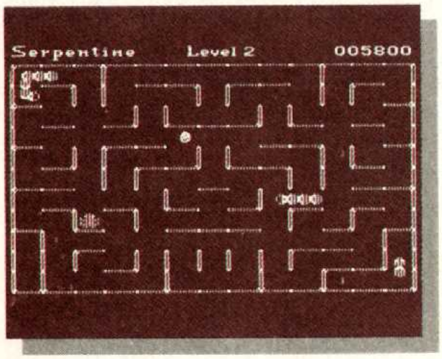
Serpentine is one of the best games ever written for the Apple. In fact, when playing, you must keep reminding yourself that you aren't at your local arcade on one of the newest games. The graphics, the animation, and the strategies are as close to arcade quality as you can get.

What makes *Serpentine* so special? First, it is not like any other game (arcade or otherwise). Second, it is extremely challenging at every level. Third, it is very easy to get used to, so younger players are not frustrated by low scores when learning the game.

Far in the future, large serpents rule the globe. The serpent kingdom is divided, naturally enough, into good and evil. The good snakes are blue and the evil serpents are a sickly orange. You have managed to tame a few of the blue snakes and now, astride your reptilian mount, you set out to rid the world of evil.

The game area is, appropriately enough, the streets of an ancient city, now reduced to a series of burnt out corridors.

The screen is used to display an overview of the city. On the right, is the pen from which your snake is released, and on the left is the cage for the orange serpents. The only way to destroy an enemy snake is to eat it. You must approach the enemy from behind and nibble away at his segmented body. When you have bitten off enough to make the enemy snake shorter than your snake, he will change from orange to green indicating that he is edible. At that point you can either continue your nibbling until the enemy is eliminated, or wait until you can meet him head on.



For every snake you devour head on, your blue steed grows one segment in length. The longer your snake is, the rougher he is to defeat. Eating a snake from behind will eliminate him, but will not add another segment to your snake. You can also add a new segment by devouring one of the frogs hopping around the city.

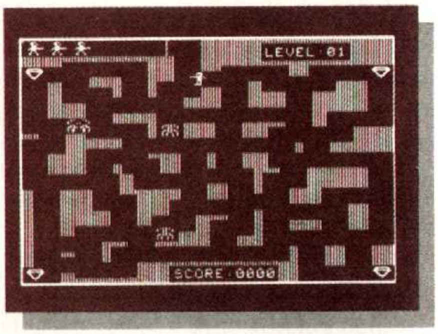
Let's see, what else is there? Oh yes, snakes also like to lay eggs. Evil eggs are spotted; your good eggs are solid white. If you eat an evil egg, you will grow yet another segment. Likewise, if an enemy eats one of your eggs, he will grow an extra segment.

There is a great deal to think about while you are playing *Serpentine*. This is one reason that our panel preferred the joystick over the keyboard. Often, life or death depends on quick reverses or sharp turns. With a good joystick, these turns are easy. On the keyboard, they become difficult, if not impossible.

Without doubt, *Serpentine* is a game worth owning. If you are in search of fun, thrills, and excitement, *Serpentine* is to sure to delight you.—*CV*

SOFTWARE PROFILE

Name: Serpentine
Type: Arcade
Author: David Snider
System: 48K Apple, joystick optional
Format: Disk
Language: Machine
Summary: One of the best
Price: $34.95
Manufacturer:
Broderbund Software Inc.
1938 Fourth St.
San Rafael, CA 94901



LAF PAK

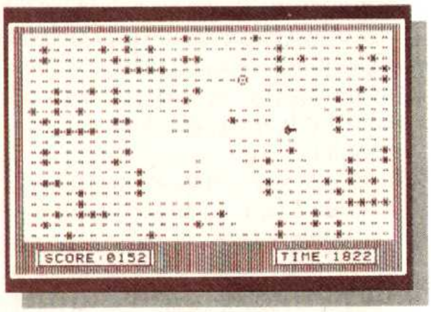
Laf Pak is a disk of four games: Creepy Corridors, Apple Zap, Space Race, and Mine Sweep.

In Creepy Corridors, you must guide a small animated man around a maze of corridors, picking up four treasures located in the four corners of the maze and then exiting through a door on the right side. Hampering your progress are scores of creepy things which enter the maze from the left.

You have a gun at your disposal with which you can dispatch the creepy things to Creepy Heaven. On the other hand, this isn't always the easiest thing to do since your gun shoots only in a straight line, and few of the corridors are straight and long. Thus, good planning and quick reflexes are probably of greater value in retrieving the treasure than your weapon.

As you might expect, each level becomes progressively more difficult. How many levels are there? I don't know, but certainly enough to keep you challenged for a long time.

In Mine Sweep, the entire screen is



filled with big and small bombs or mines. You have at your disposal a mine sweeper which, by using the keyboard or joystick, can be made to fire in any of four directions.

A small mine simply explodes in the square it is in, while a large mine explodes itself and the eight surrounding squares. In addition, every once in a while a mine layer zooms out and lays a new row or column of mines. Each small mine is worth one point and each large mine is worth two. If you manage to get the mine layer, you earn 100 points. Needless to say, if you are too near a large mine when it goes off, it will take you with it. You have an unlimited number of mine sweepers to use within the 2000 time units.

This is a tough little game in which you must keep moving and shooting almost constantly in order to have a prayer of clearing the board. We found that play was easiest using a switch-type joystick with a Sirius Joyport.

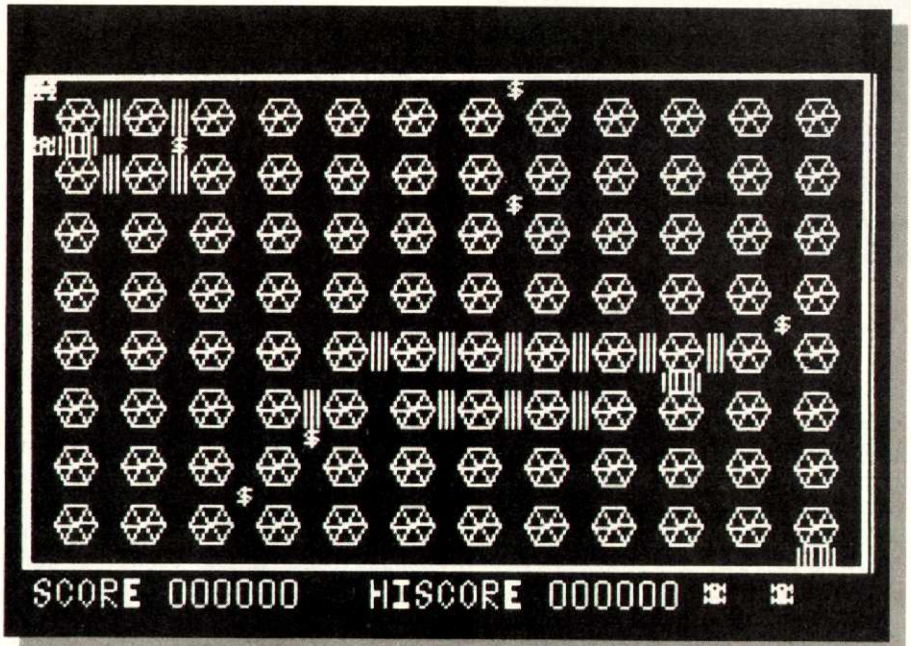
In Space Race, you use a paddle control to maneuver a small rocket from either the right or left side of the screen up through a portal in the top. Your challenge is to avoid giant bats which try to prevent you from reaching the escape portal. This is a game for one or two players, but be warned, you will find the computer an extremely tough opponent in the one-player game.

Apple Zap is a game played from the keyboard in which you attempt to shoot space ships and missiles coming at you from the four compass points. Essentially, it is the same game as Space Fortress on the *Escape from Arcturus* disk from Synergistic Software.

All in all, *Laf Pak* offers a lot of game playing value per dollar, and you are almost sure to find one or more of the games on this disk to your liking.—*DHA*

SOFTWARE PROFILE

Name: Laf Pak
Type: Four Arcade Games
Author: Charles Beuche
System: 48K Apple, joystick, paddle
Format: Disk
Summary: Four for the price of one
Price: $34.95
Manufacturer: Sierra On-Line
36575 Mudge Ranch Rd.
Coarsegold, CA 93614



CRAZY MAZEY

Crazy Mazey is a hunt and chase game in which you hunt treasures in your speedy little car while vicious killer cars chase you. Your only defenses against these nasty attackers are quick reflexes and careful planning.

Each of the 19 levels is laid out in checkerboard fashion with you and the killer cars able to travel along the grid lines. There are barriers at different points, always the same on each level, that impede both your progress and the progress of your pursuers. You always start off in the upper left corner and must make your way around the board picking up treasures (designated by a dollar sign), and make your way back to the upper left-hand corner which then becomes a passage to the next level. Meanwhile, killer cars are pursuing you, one on the first level, two on the second level, three on the third and so on.

On the lower levels, the cars are relatively easy to outwit, however, on the upper levels, they become more intelligent and the barriers, more numerous. I found the even numbered levels somewhat easier because I could frequently lure cars into collision with each other, eliminate all cars, and then leisurely collect the treasures. On odd numbered levels this is impossible, of course, because there will always be at least one car left to pursue you.

The game may be played at any of seven speeds. When I first got the game, I pressed speed 1, thinking it was the slowest. It is not; speed 7 is the slowest and speed 1 is the fastest. After getting used to the game and working out some strategies at the slower speeds, I found it was most fun playing the game at speed 3, 4, or 5, depending upon the lateness of the hour.

Crazy Mazey can be played only from the keyboard, not a major problem since there are only four directional keys used in the game.

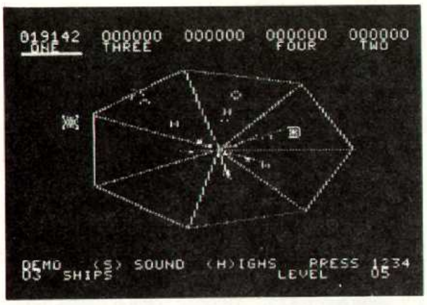
You start with three cars and get a fourth when you get 10,000 points. You receive 100 points for each of the six bundles of cash, and 100 points each time you cause two enemy cars to collide. I found *Crazy Mazey* a fast paced, addictive, and challenging game best played when I was alert and could outdrive and outthink the killer cars.—*DHA*

SOFTWARE PROFILE

Name: Crazy Mazey
Type: Arcade Game
Author: Ronald Meadows
System: 48K Apple
Format: Disk
Summary: Fast-paced chase through a maze
Price: $29.95
Manufacturer: Datamost, Inc.
9748 Cozycroft Ave.
Chatsworth, CA 91311

TUNNEL TERROR

The packaging states, "while your ship moves around the circles on the edge of the dimensional tunnel, the ene-



my will move up the sides until they either reach the top or are destroyed by your ship's fission torpedoes. The enemy is varied as well as deadly: Walker Carriers split into two walkers upon reaching the tunnel exit and will try and destroy your ship; Crazies are unpredictable and may attack upon emerging from the tunnel or retreat back into it—if you're lucky."

Tunnel Terror is similar to the arcade game Tempest.

Tunnel Terror can be played with either the keyboard or a game paddle. Each mode of play is responsive and accurate. In paddle mode, a small arrow appears on the screen when the paddle comes to the end of its sweep. This is an especially nice feature and easily prevents paddles from being broken by "overtwisting."

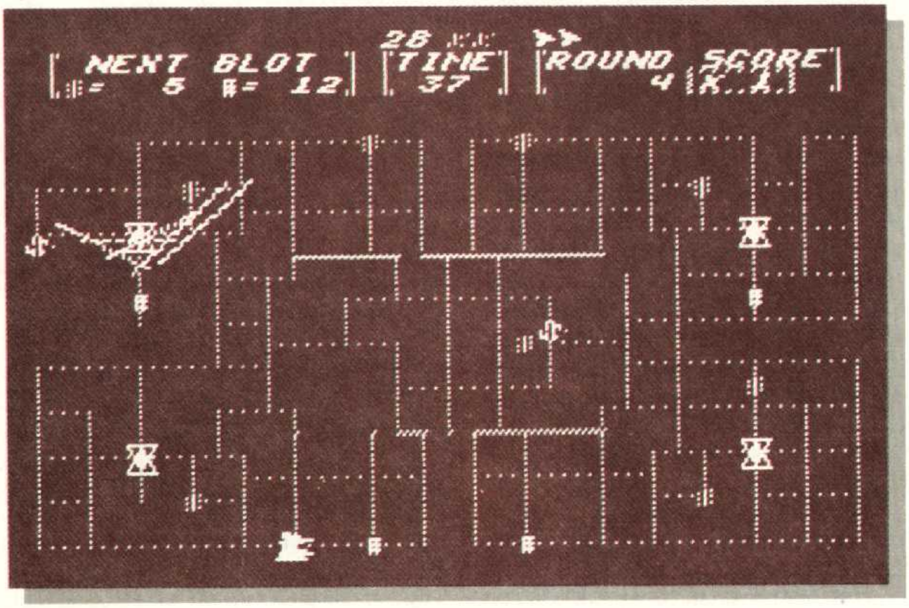
Tunnel Terror is yet another winner from AI. It combines fast animation with the superb graphics that we have come to expect from all of Scott Adams's games. With 61 different skill levels, it's hard to imagine anyone becoming bored with *Tunnel Terror*.—*CV*

SOFTWARE PROFILE
Name: Tunnel Terror
Type: Space arcade
System: 48K Apple, paddle recommended
Format: Disk
Language: Machine
Summary: Lightning fast action with superior graphics and sound
Price: $29.95
Manufacturer:
Adventure International
P.O. Box 3435
Longwood, FL 32750

THE SNAPPER

In *The Snapper*, you are presented with a rather unusual gridwork of lines with scoring and status information above it. You control a little creature, the Snapper, directing it about the grid. The Snapper starts in the center. Toward each of the four corners are four bases. In addition, there are "blots" located randomly throughout the maze.

Your object is to eat as many of these blots as possible before time runs out. You hear a warning signal when there are 10 seconds left in the round and an even more urgent warning when 5 seconds remain. When you hear the warning, you must head for one of the bases. When you get there, the score of your blots is tallied. If you do not make it to a base in time, you start again with another Snapper, assuming you have not used them all.



Impeding your progress are "whirlers" which move around the maze on the same gridlines that the Snapper does. There is also a Gamma Field composed of undulating lines which moves at random over the entire display, similar to the Qix in the arcade game.

Not only must the whirlers be avoided, but they hamper your progress by occasionally erasing some of the grid lines. Indeed, as the game progresses, you will find they have erased so many lines that you can't even get to certain areas of the maze. However, after you have collected 10 blots, a magic ring appears in the center. By going over this ring, you restore the maze to its original pristine condition.

As you progress to higher rounds of the game, some of the maze lines turn bluish green in color and become "slick." When you enter one of these lines, you travel all the way to the other end of it without being able to get off at any of the intermediate junctures. Thus, as the game progresses, more and more planning is necessary to survive and achieve a high score.

YOUR OBJECT IS TO EAT AS MANY OF THESE BLOTS AS POSSIBLE BEFORE TIME RUNS OUT.

The scoring is rather complicated. In essence, it provides a tradeoff between survival and high scores. If you eat only a few blots before touching a base, you will live a long time, but you will not get many points. There are ways of earning an extra life, multiplying your score, and so on. As you get the hang of the game, you'll find your score rising dramatically.

In summary, *The Snapper* is an intriguing, challenging game which should hold your interest for a long time.—*DHA* ■

SOFTWARE PROFILE
Name: The Snapper
Type: Maze Game
Author: Dave Sanders
System: 48K Apple, joystick recommended, 16K Atari 800
Format: Disk
Price: $32.95
Manufacturer:
Silicon Valley Systems
1625 El Camino Real, #4
Belmont, CA 94002

MINER 2049er™

BY JOHN J. ANDERSON

BOUNTY BOB GETS HIS MAN

Miner 2049er is probably the best and the worst software event that has happened in quite a while. It is without any doubt the most popular game I have ever run on the Atari computer, and next to word processing, now my most frequently run program. *Star Raiders* was a passing fancy compared with this game; *Choplifter* an afternoon's diversion. After dozens of hours, instead of writing about it I feel like playing a game right now: *Miner 2049er* has true staying power. It always offers something new. It always makes you laugh.

It is now available for the Atari 5200, as well as the Atari computer, and will soon be available for many other machines.

Owen, our arcade games aficionado extrordinario, devoured *Miner* with all the enthusiasm of a fine wine connoisseur. In the February issue of *Creative Computing*, he called it "limitlessly playable." With ten separate and very distinctive screens, the action never bogs. "Atari Strikes Gold," said Owen's headline.

LOST WEEKEND VIDEO GAME

Why then was the game also the worst thing to happen to me? Well, though not in Owen's league, I'm a somewhat better than average gamester. When confronted with something so challenging that even twenty hours of play doesn't beat it, we're really talking addiction, folks. I had just finished work on an Atari games book at the time, and was sure that I never wanted to see another video game. Then Owen dropped *Miner* on my desk.

When I realized some days later that my output for *Creative Computing* had dropped dramatically because *Miner* was all I ever booted, I became concerned. There was only one way out, and that was radical. I dropped everything, and learned to beat the game. The stakes were high: if I hadn't done it, I might have landed on video skid row, begging for quarters.

Don't get me wrong. I still have to muster a lot of concentration to make it through all ten screens at "zone 1" difficulty, and a new level of challenge is added simply by starting the game at zone 2 or 3. But I did find a sure-fire route all the way through, and only then did my obsession begin to abate.

MEET BOUNTY BOB

Miner 2049er, like Donkey Kong, is what I would have to call a climbing game—a popular and growing arcade category. But the advanced screens of *Miner* are so original, so different, that they transcend the genre. Getting to the advanced screens is truly rewarding, and completing them to arrive back at screen 1 of the second zone is a blast. Scoring almost seems secondary, though there are ways to maximize your score, and after you have mastered the game, you can concentrate on "upping your high." But until you discover the "northwest passage," so to speak, you are best off ignoring your score completely.

In the game you are Bounty Bob, and you must cover all the catwalks in the mine, claiming treasure, and destroying alien mutants. As you shuffle along, controlled by joystick, the sections of catwalk fill in below your feet. Once you have covered all sections on a screen, you advance to the next one. If you take one of the several prizes to be found along a path, all mutants on the screen become temporarily vulnerable. They change color and shape, then flicker back to their original and deadly form, a lá Pac-Man. The speed of the mutants as well as the time they remain vulnerable depends on the zone of play. The first ten screens (called "stations") default to zone 1, although the game can be started on a tougher level.

There are other hazards on each screen. Obviously if you suffer a fall of too great a distance, it will prove fatal. There are also chemical and mechanical hazards, such as nuclear waste, pulverizers, explosives, and poisoned martinis to be avoided. There are slides, which can sometimes provide a short cut, and sometimes a trap with no escape. It is up to Bounty Bob to use them to his advantage. He gets three lives, and an extra bonus life is awarded if he reaches 10,000 points.

In some screens there are numbered teleporters, and Bob can "beam" up or down to various levels of the catwalk by pushing that numbered key. Other screens sport moving platforms upon which he can hitch a ride.

The game is also played against the clock. A timer at the top of the screen clicks off the seconds left for completion of that station. If Bob begins to flicker, he's about to expire, and only swift completion of that level will save him. Perhaps the challenge of the game is beginning to become clear to you.

Beside his characteristic shuffle, Bob can jump. By aiming your joystick in the direction you want him to jump, then pressing the trigger, you can make Bob into a lithe and tireless leaper. In fact, you must perfect his grand jeté in order to beat *Miner 2049er*. Bounty Bob is in your hands.

MASTERING THE GAME

I have never been a proponent of rote patterns for beating video games, but as I am about to set out ten stations worth of patterns for you, a few qualifying statements are in order. First of all, I know for a fact that there are other ways to complete the screens, and though I have tried in all cases to hone my routes to perfection, better paths probably exist for some of the screens.

More important, I want to encourage you to practice the ability of *ad lib maneuvering*, as opposed to what you learn here. The real fun of any video game comes when you lose a rote pattern for some reason or another, and must think and move fast to find an alternate means to success. Don't quit just because you blow the pattern. Fight your way out of it, and you will get the most enjoyment out of *Miner 2049er*.

Before we get into the road map specifics of beating *Miner 2049er*, let me provide some general advice and pointers (Refer to Table 1, Page 104):

If you want to discover your own paths through the game, you will have a lot of fun doing so. Then, only if you are totally stumped might you want to peek at the balance of this article. For anyone who feels the game is ruined by eliminating the exploration component of any of the screens, my suggestion is to stop reading right here.

THE SPECIFICS

Here is a blow by blow account of all ten screens.

STATION 1: THE MINE SHAFT

The first game screen helps you get your "sea legs" and warm up the old joystick. Move all the way across the bottom walk, noticing that a little pirouette is needed to fill in the very left hand side. Likewise, you'll need another doubling back maneuver as you move between point B and the ladder. Head up the ladder immediately, make a right, and pick up the shovel. Then head up the middle ladder, grab the teacup, and make for the left-hand edge, point F.

Next it's up the lefthand ladder, and your first encounter with the mutants. The axe will help you keep them vulnerable as you first move left, then right all the way across the top platform, to point I. Backtrack a bit to get down the righthand ladder, finish off the righthand side of this walk, obtaining the rolling pin in the process, and then down the middle ladder again. Make sure you have hit the tile *directly above* the middle ladder. Just standing on it *won't* fill it in—you must move across it. After the ladder it's a left, to finish off the walk to point L. Then backtrack about two tiles.

Now jump to the left to clear the ledge marked as point N, picking up the jug as you go. It will make the next mutant vulnerable as you *walk,* not jump, off the ledge to the left, and finish off the rest of the board. Note that one mutant is left alive. You could easily alter this pattern slightly to finish it off, but it would undoubtedly cost more time points than the puny worth of the alien.

STATION 2: THE SLIDES

The only treacherous terrain in the second screen is its namesakes, the slides, and they are not likely to be fatal, just annoying. The first thing to do is move to the left, grab the torch, and finish off the left- and righthand mutants. Then up the ladder to point C. Jump off the lefthand ledge, then double back a bit to finish off the walk. Move through point D and up the ladder.

Make a right, and grab the point E hamburger. Then up the ladder, and jump off the ledge at F to the right. Hit the lefthand top-level mutant in the process.

Jump again off the right-hand ledge, grabbing the pick axe and the plane as you go. Jump up when directly under the righthand top-level mutant to vaporize him. Jump the slide between points H and I, hitting the candlestick and filling in the floor, but without dropping down. This will take a bit of practice. You *don't* need to fall down a slide to clear it. Work it from the sides. Finish out that platform except for the very furthest right extreme, because you don't want to go down that slide yet, either.

Then go up the ladder, make a hard left, and go all the way across to point J and back, grabbing a set of pliers. Now slide down the slide from point K to the bottom of the board.

Head back up the ladder but this time to the right. Jump the slide to finish off point M, then jump back. Go up the ladder to point N, and repeat the jump over/jump back process to hit point O. Then grab the flask, jump left from point P, but only as far as point Q. Then double back to point R, located at the lefthand side of the slide that drops down from above. Jump left from there, and finish off the board without falling down the slide near point S.

STATION 3: THE TRANSPORTERS

Now things start to get interesting. There are many ways to complete screen 3, but here is one good way. Move immediately left, grab the iron, and finish off the mutant. Then, after positioning yourself in the transporter, press 3. Notice that the transporter must re-energize before it can be used again. Move right and jump to grab the anvil at point B, then walk right off the left-hand side of that platform to land at C. Go all the way left to D, then back a bit and up the ladder.

If the mutant above is not vulnerable, pause on the ladder until it moves right of the ladder. Then make a dash for the pliers at point F, finish off the mutant, and head up the ladder to grab the detonator. Move left, then right, across the

TABLE I

- *Don't rush.* At the zone 1 stations, there is more than enough time to complete each screen. Although the faster you complete each station, the higher your score will be for that station, rushing invariably forces dumb errors. In the beginning, at least, take your time, get your footing, and measure your success by survival as opposed to speed.
- *Set for your jumps.* Just as a basketball player sets for a shot, you should set for jumps from ledge to ledge. Pause for an instant, to make sure you are correctly positioned on the screen and that the joystick is pointing where you want it to, so that Bob will go where you want him to when you press the trigger. As you improve, your movements will naturally become more fluid. But setting for jumps is always advisable.
- *Don't poach mutants.* Mutants must be disposed of to complete each screen. But unnecessary movement aimed at their extermination never pays. They must be eliminated efficiently as you complete your course, without deviation from that course. A mutant is never worth more than 90 points, and 100 points tick off the screen clock every two seconds or so. Therefore even a two-second detour to wipe out a mutant is a losing proposition. Your priority is to finish screens, and mutants must die for this goal. Unnecessary cruelty, however, will be revisited on you.
- *Try not to cover the same path twice.* Although in many cases Bob *has* to double back on ground he has already covered, in general this should be avoided. In hunting out your own patterns, this rule has high priority.
- *Finish whatever path you are on.* This is a corollary to the previous guideline. If you are on a certain path, make sure you leave no gaps that will have to be filled in later. Everything underfoot must be made solid. Sometimes you will fail in this, and a board will look complete, but you will not advance. Often this situation occurs when random screen colors coincide, making it difficult to find the gaps. Examine the walks closely, and race the clock to find and fill the spot you missed.
- *Learn the slide pivot points.* As a beginner, you will have a hefty respect for the slides, and rightly so. One wrong move, and you are down in an instant. In truth, however, there is only a single narrow point on any walk that will result in slipping down a given slide. By learning to anticipate this point, you will gain dexterity and confidence on walks that contain them. You must also practice the skill of jumping slides, as well as filling in the walk over a slide without falling into it. By working carefully from the sides, it can be done.
- *Don't touch anything that is glowing.* If an object appears to pulsate in color, it is deadly. This holds for invulnerable mutants, moving platforms, and an object that looks like a prize but is not. Avoid glowing objects assiduously.
- *Don't die.* This is Linzmayer's first rule of arcade strategy, and I have yet to hear a better piece of advice, in or out of the arcade.

top from G to H.

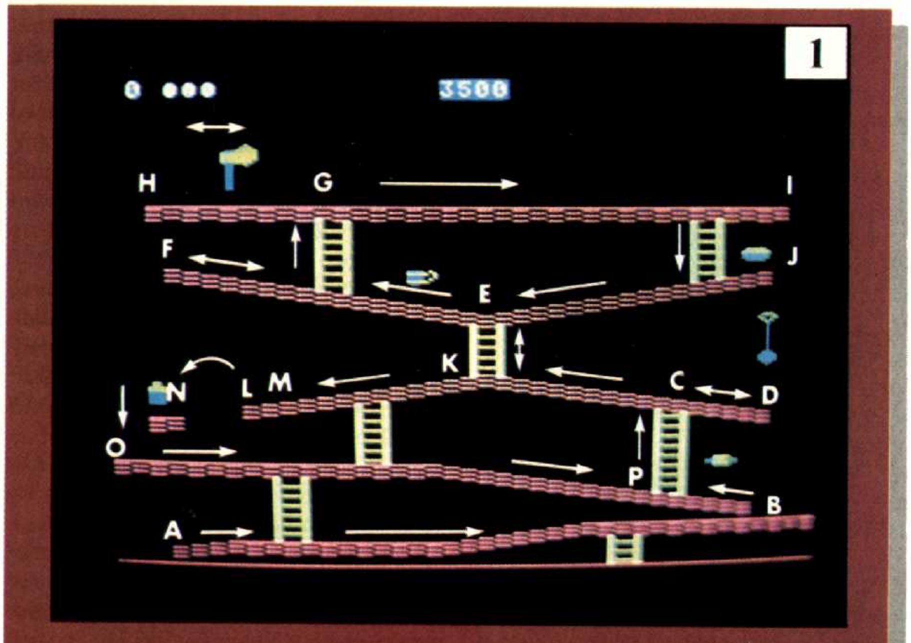
Pause at point H until the mutant below is left of the drill. Then jump down, grab it, kill the mutant at I, and head down the ladder (don't try the walk-off method here, it's too far). Turn right and finish the platform, hitting a mutant and grabbing the goggles. Then backtrack left and walk right off the lefthand side to fall to point K. Move left, then right to finish the platform. Jump right to point L, finish that platform, then walk-off right back to the floor at M.

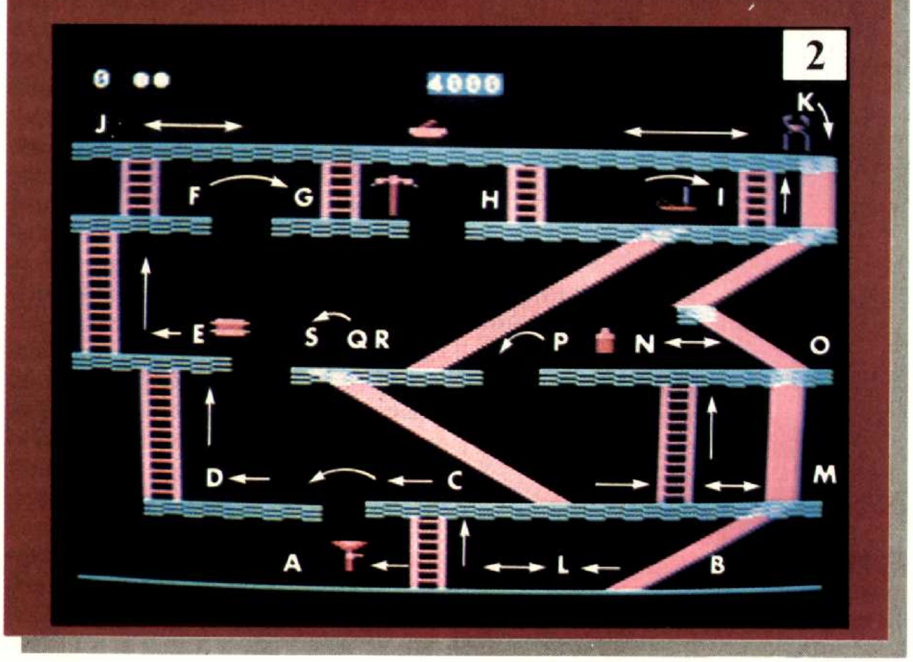
Get back in the transporter and press 2. Finish the floor there, then jump left to point C, where you have already been, to walk off the right to point O. This may seem dumb, but it won't seem too silly if you try jumping directly from N to O a few times. Finish off that floor, then jump left to P, and move to Q to finish the board.

STATION 4: THE LILLIPADS

This screen is where things really start to get dangerous. Certain moves must be executed with careful timing and dexterity to successfully complete this board.

Pause for a moment in front of the money, until the mutant on the far right moves in front of platform A. Then grab the money, knock out both mutants, and jump right onto A. Finish it, jump right to B, finish it, then jump to C, killing the mutant and getting the candlestick. This entire sequence must be completed on the power of the money, so don't tarry.





Jump left to D, then E, F, G, H, hitting the mutant at J on the power of the candlestick. Make sure you finish every platform as you go. Jump to I, grab the cake, then up to J and K. Grab the martini, then jump to L and M. Eliminate the top-level righthand mutant by jumping up from the platform at N.

Then go up the ladder, right and all the way left to complete the top, hitting the lefthand mutant on the way.

Walk off the left top to point O, then to P. To jump to Q from platform P, you must be all the way right—"hang ten" off the right hand side of the platform. Then you may reach Q, grab the burger, and walk off the right back to K. Standing just to the left of platform L, jump down to R. It is important that you be not too far left when you make this jump, or you will miss R completely, and "buy the farm." The power of the burger will make the mutant at R vulnerable. Drop down off the left to S, finish it, then drop down off the left again to T. It is important to "hang ten" again, this time from the left of T, to jump left and reach U. You will grab the pie as you drop off the lefthand side of U to V. Walk off right to reach W.

After W is completed, jump right to X, right to Y, and jump up to get the flowerpot. Jump left to Z, then walk off the lefthand side, drop to X again, walk off the righthand side, and you will be at 1. Walk off the lefthand side of 1 to hit the ground once again. Finally climb the ladder at the extreme left, and finish the walk at point 3. Simplicity itself, right?

STATION 5: ADVANCED LILLIPADS

By the time you master this screen, finishing the walkways over slides without sliding down them will be second nature to you.

The first thing you should know about this station is not to drink the martini right above your head. Remember what was said about glowing things. Wait for the lefthand mutant to move right, then follow it, and jump to platform A. From there go to B, C, and D, but don't take the teapot just yet. Jump left to E, left to F, and up to G. Wait until the mutant at S moves left to jump right from G to H. Walk off the right end of H and the right end of I to D again. Pause until the lefthand mutant is right below, then grab the teapot and walk off the righthand side of D. Finish off both mutants.

Jump back up to A, but this time jump

right to J. From there it's left to K, right to L, then straight up to M and N. Jump left to O, straight up to P, then left to Q. Pause after jumping up to R, until the top-level lefthand mutant is at the far right of its path. Then jump left to S, hitting the mutant there, and up, up, up, and up to T. You can use the power of the blowtorch between R and S to eliminate the top-level lefthand mutant. If this does not work, you will have to avoid the mutant, either by clever timing or by jumping it, until you reach the pickaxe on the top level.

Once you reach T, fill in the floor to point U without falling down the slides. Backtracking will be necessary to position your jumps between slides. You may choose to use the money to hit the top-level righthand mutant. Otherwise you can get it with the hammer later on. Slide down the slide at U to V, finish that platform, then "hang ten" to the left. It's a long jump from V back to Q. If you want to experiment with the moving platform to the right, be my guest. I think it's a trap, and I always retrace my original route left back up to the top platform. It wastes time, but is necessary.

Get back to point U by jumping slides. Jump slides all the way right, killing the remaining mutant with the hammer if you haven't already done so. Walk off the right hand side to point W. Walk off left to X, left again to Y, right to Z, left to 1, then jump left to 2. Grabbing the candelabra is very tricky. You must be one pixel from falling off the left hand side, which is a fatal drop. Jump straight up to grab the candelabra. I suggest this only to advanced players. There is no harm in leaving it alone.

Walk off the right of platform 2 to reach 5, repeat to reach 6, then walk off left to the floor. Jump up to 8, and hang ten as far as possible to jump left to 9. It may feel wrong at first, but it's the only way. You can practice this one, since missing is not fatal. All that's left to do is jump left to 10, and the board is cleared.

STATION 6: THE RADIOACTIVE WASTE

Although it is not easy to concentrate with nuclear debris staring you in the face, you can conquer screen number 6. Your first few tries are bound to be discouraging, no matter what preparations you make. Be patient—go ahead and die a few times—that in video games is a part of the learning process.

And whatever you do, don't give up hope. Station 6 is a breeze once you learn the trick to it.

On this screen, more than any other, you must master the art of hanging ten off the edge of one ramp to reach the other. Jump up to A, B, grabbing the candle, hanging ten then to C, destroying the mutant, and following to D, E, and F.

Pause then at F, and wait for the moving ramp to come around. You may want to jump up to I. Either jump up to or slide down onto the moving ramp. If you have worked reasonably quickly up to this point, your timing should be good to catch a left-moving ramp over to point G. If not, wait for the ramp to come around again. Later you may change the pattern, but for now stick with me exactly.

Once you have caught the ramp, ride it to the left until you are parallel with tile C below. Jump left to point G, catching the jug as you go. Climb up to H, knocking out the mutant and catching the prize, then back down to hang ten off point G.

Wait patiently for the ramp to come back your way. When it is just ahead of your hanging toes and incoming, slide down onto it. Ride it back to ledge I. Certainly this takes a bit of practice.

The jumps from I to J, K, L, and M are quite straightforward. From M slide down left to N, then jump back to J. Jump through K and L again, and this time right to O. Right to P will pick up the plane and hit the mutant at P. Then jump left back to O, walk off left to K, walk off right to Q, then off right again to R.

Do not try to make it from R to S. Rather jump back up to Q, then walk off left to reach S. Jump right to reach T, climb up to U and then back down again. Hang ten, then jump left back to S. Walk off right from S to V. Jump left to W, right back to V, then right again to X, grabbing the burger, which you will use to nail the final mutant at Y, then Z. And voila.

Station 6 marks a point in the game at which multiple routes become not only feasible, but commonplace. There is more than one way to get through this screen, and I encourage you to be flexible; you will be needing this flexibility ahead.

STATION 7: ADVANCED TRANSPORTERS

This is one of the most dangerous screens in the game. There are many opportunities to misstep, and mutants seem to materialize from nowhere. If you can make it past this screen, you have a good chance of finishing the first zone.

Move into the transporter and beam yourself to level 3. Catch the ramp right to C. This will take practice, as will all ramps. Hang ten, and as the ramp approaches under your toes, jump. Jump right to C, grabbing the anvil, and right again to D. Jump up to snuff the mutant above you on F. Jump left to E, then right to F, jumping for the whopping "BF" prize overhead. Don't miss it, as it is worth over 1000 points. Then catch the ramp to the right, jumping when at the furthest right to H. I wait until the ramp actually changes directions, then immediately jump right, and am never short.

Aha, the slides are indeed back to haunt us. Jump over both slides here, to I, then jump left again to a point between them. Carefully finish off this platform, then take the left slide all the way down to J. After getting both the mutants, catch the moving ramp to get up to K. Moves L, M, and N are simple. Don't take the ramp left to O—that is a trap. Hang ten, jump left, and you'll make it, grabbing a drill and killing a mutant in the process.

Stand toward the left in the transporter, then beam to 4. If you stand dead center, you will immediately slide down a slide, so stay left when you beam up. Jump the slide to finish the platform, then slide all the way down.

Jump up to R, then back down to Q. Standing to the right of the slide, jump to point S, finishing that platform—this will take a bit of practice. Then jump right to T, and up to U.

You must stand to the right (I might almost call it "hanging heel") to get from U to V, V to W, and X to Y. If you stand in the middle the jumps will be fatal. Jump left from Y back to D, and left again to C. Slide back down to Q.

Walk off right to Z this time, then right to 1, and right to 2, and back down to the floor at point J. Go back into the transporter, and press 3 again. Take the ramp right again, only this time jump right early, so that the last unfinished tile of the screen fills in.

A note of caution should be injected here. Dozens of things can go wrong in Station 7, forcing you to deviate from the given pattern. This should be no problem, as long as you complete the board in the *groups* of steps that have been laid out here. Nail the elevated mutant first, or he'll cause trouble. You may want to leave the pliers alone the first time through, just to have a backup prize in case of emergency. Set for each and every jump, as they are tricky.

STATION 8: THE LIFT

This station is tricky, but it is also more fun than any other in *Miner 2049er*. Why? Because of the lift itself, which is operated when Bob is on it by tapping the space bar and moving the joystick. The first time you reach it, you should play around with it to get the feel of how it works. When leaving the lift, you free Bounty Bob with another tap of the spacebar or a quick press of the trigger. Don't rush when you are on the lift, and make sure you know which operating state you are in the whole time you ride it.

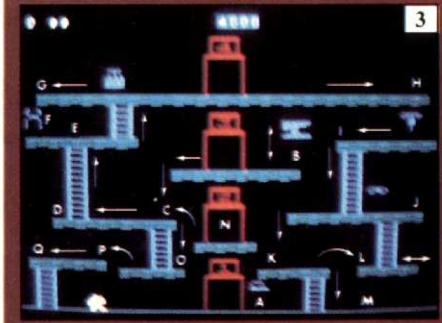
The moving platform you find on this level is *glowing*. That means it is fatal. Don't touch it.

Finish the platform you begin on, then jump left to the lift. Hit the spacebar, then go straight up until the lift is even with the small platform at B. Carefully jump right to B, and right again to C, then retrace your steps back to the lift. Stand just left of the ladder when jumping from C back to B. Set for each and every jump—the B platform is small.

Once on the lift, position Bob at the far left, then hit the spacebar. Move left and down to reach the prize at point F. Then move the lift down to match the platform at point D. Disengage control of the lift, then jump left, hit the alien, and finish the platform at D. Jump back then to the lift. Head straight up until parallel with the platform at point E. Jump left to J and nab a mutant. Don't worry about finishing the platform, as you'll be back. Jump back to the lift, and ride it down until it is even with the platform at point F. Time your jump left so that the mutant is moving away from you as you reach its platform. You will have to jump the mutant and a slide to reach the blowtorch. Watch that slide! Falling down it is not fatal, but it might as well be, as there is now no escape from point D.

After jumping back to the lift, position it so that you can climb the ladder, with the right hand side of the lift even with the right hand side of the ladder. This will facilitate jumping from J back to the lift.

Climb up to K, but don't worry about finishing it just now. Time your move to H, so you can reach the candle and knock out the top-left mutant. Climb down the lefthand ladder back to I, jump the slide to finish the far left, and from there slide back down to J. Here is where you'll appreciate the placement of the lift, as you jump back to it.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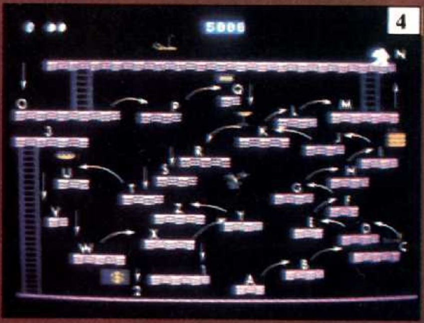
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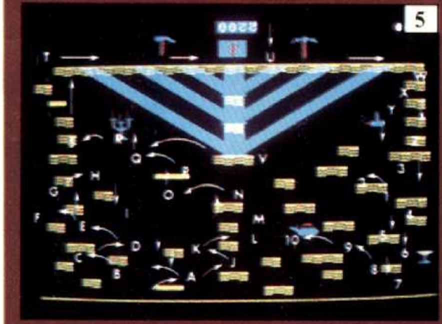
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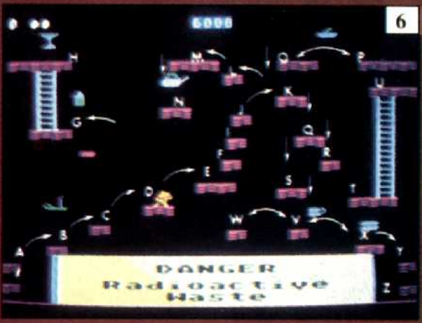
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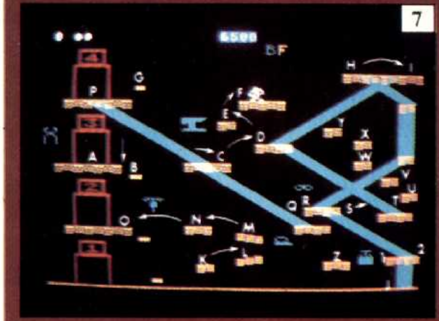
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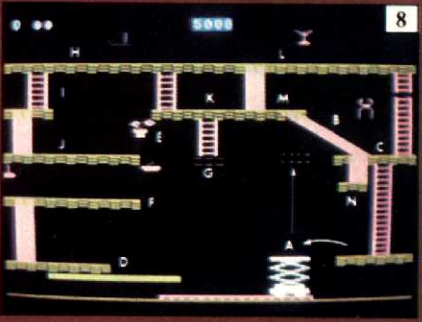
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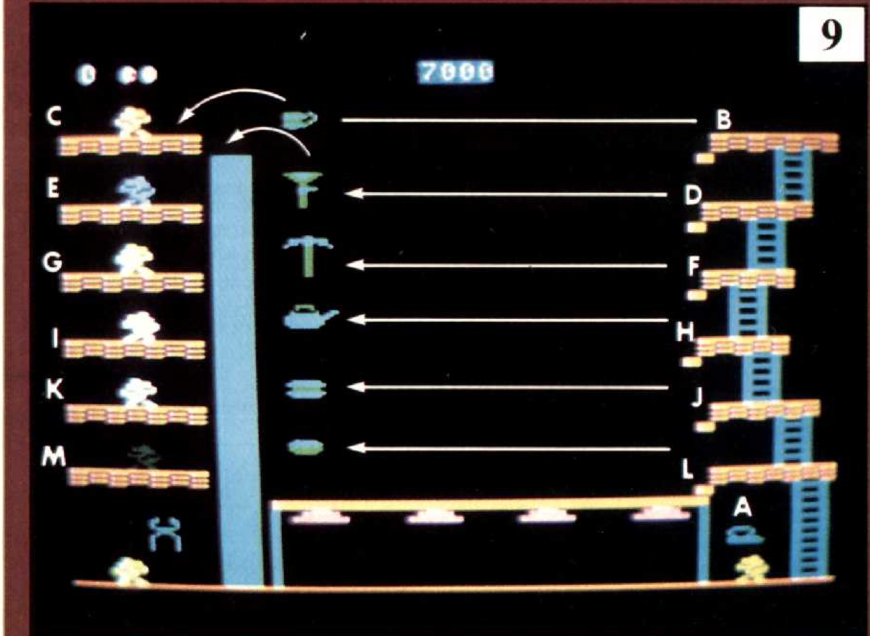
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Move back up to K and continue to ignore K as you time your move to L. Time the climb once again so you may jump the slide, and do in the top right hand mutant by grabbing the martini. After the top level is finished, slide down the slide. Finish off K, except for the area labelled M over the slide at the far right. Jump to this tile from a point just left of the slide from L to K. Then slide down to finish the screen at point N.

Don't try to climb a broken ladder or jump off one.

STATION 9: THE PULVERIZERS

I hesitate to call any screen in *Miner* easy, so let me say merely that there are fewer kinds of mistakes to make on this screen than on any other. Time your jumps, and this screen will be yours.

First, climb all the way down to the floor at point A. Stand in front of, but do not take, the iron. When the approaching mutant clears the last pulverizer, grab the iron and kill it. Then climb all the way back to point B.

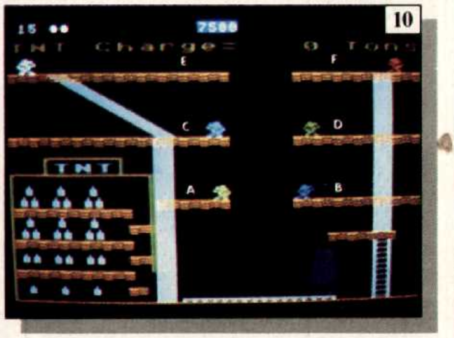
The pattern from here on repeats itself at each level. Walk off left to the little ramp nestled under point B. It will shoot you across the screen, so you can jump left to point C, grabbing the cup and getting a mutant. Timing the jump is easy, if you know the trick: only jump left *immediately after* you have taken the prize just right of any platform. If you wait until the moment you take it, then jump left, you will always make it to the lefthand platform. Then take the slide all the way down. The first time you get there, there will be a mutant to take care of. Pause, then, in front of each pulverizer for one cycle, and you will never get nailed by one. It may look possible to skip this step sometimes, but why take chances?

Repeat these steps through D and E, F and G, H and I, and so on until the screen is finished.

STATION 10: THE CANNON

The first thing you must realize, and accept, about this screen, is that the effect of the prizes will wear off long before you have a chance to wipe out any mutants. Yes: you must work *around* each and every alien to complete station 10.

The only value of the prizes here is to act as charges in Bounty Bob's bid at becoming a cannonball. The top of the screen will read out how great a charge has been built up. As charges can not be put down, be careful in the powerkeg. Don't jump around in it or make any false moves.



Pick up a single, 10-ton charge, then climb up the ladder on the right and walk off left into the cannon. Move the cannon to the far left, and wait for the mutant to walk right. Then press the trigger to fire yourself onto platform A. Fill in the left of platform A, then head down the slide.

Pick up another single charge and use it to finish the righthand side of A. Jump the mutant as it heads back at you and hit the slide back down. This will leave one remaining single charge with which to complete platform B. You must jump the mutant at B at least once to effect this.

The rest of station 10 works in the same way. You have three chances at the second level of platforms, which require double charges (twenty tons). It can be done with two, so there is an extra here. You have six chances to complete the third levels E and F, requiring triple charges (30 tons). When firing upward, as when sliding back down to the floor, you must watch not only the mutants on the same level as you, but those above and below to insure a safe trajectory or clean drop down a slide. Grazing an alien is always fatal.

When dropping down the righthand side to get another charge, you can walk off left unarmed, as if to drop in the cannon. This movement will result in a harmless fall to the floor, saving time.

Remember *not* to clean up any extra charges until *after* all the other platforms are finished. Only then should you pick up the remaining charges to clear the board. Then you will be through.

This screen requires flawless skill in jumping mutants. You should hone this skill through continued practice. Remember, the timing of a jump is critical.

And there you have it: you have made it entirely through zone 1. At station 1, zone 2, the terrain looks familiar, but the enemy is faster and more deadly. For added challenge and higher scores, start the game at zone 2 or 3, and see how far you can go. At zone 4, new patterns are called for—see if you can discover them. At zone 5, things are pretty nearly impossible.

Best of luck and many happy (if obsessive) hours with *Miner*. ■

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FIVE

GREAT GAMES FOR THE ATARI/BY JOHN J. ANDERSON

The games market for the Atari computer is now larger than that for any other machine, stand-alone or microcomputer. The Atari computer is the undisputed king of the game machines, and while Atari owners seek to dispel the stigma attached to this, many don't really mind it all that much. It means a tremendous selection of quality games from which to choose.

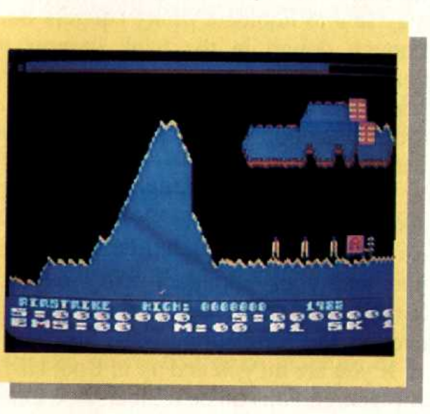
Let's take a closer look at what I mean.

AIR STRIKE

Up until just a few months ago, the only way you could get a copy of *Air Strike* was on cassette and through overseas mail. Its manufacturer, English Software, did not misrepresent itself—the company is located in England.

Now an office located in Redondo Beach is shipping *Air Strike* to stores in cassette and disk format. It is one of the better (and more challenging) Scramble type games available for the Atari.

By Scramble type game, I mean the following: a flyer-style shoot-'em-up, wherein the terrain scrolls by left to right. Your ship must move forward at all times, but you control altitude and speed. You can fire shots from your nosecone to vaporize enemy missiles, satellites and other debris (which is fatal on contact, so keep firing), and drop bombs to fill up at fuel depots you encounter along the way. *Air Strike* is but one of the games of this sort available for the Atari.



Using your joystick, you steer your ship and fire ahead. Using the spacebar, you bomb enemy fuel dumps and buildings. It is an acquired talent to manipulate joystick and spacebar simultaneously.

Warning: *Air Strike* is difficult. If you are a beginner or a "clod," as we occasionally label our own novice gamesters, *Air Strike* will frustrate the heck out of you in less than twenty minutes. By the time you manage to make it through the initial terrain scenario and into the portal containing the second, you have already spent hours training yourself in this phase of the mission. And things only get harder from here, so brace yourself.

The graphics in this package are fair, though the multicolor character graphics look a bit blocky to me. Perhaps it is because *Air Strike* runs in graphics 7 as opposed to graphics 7+ mode. The animation is likewise a bit ragged, with visible jumps here and there when interrupts coincide. In all, a good, but not excellent, effort.

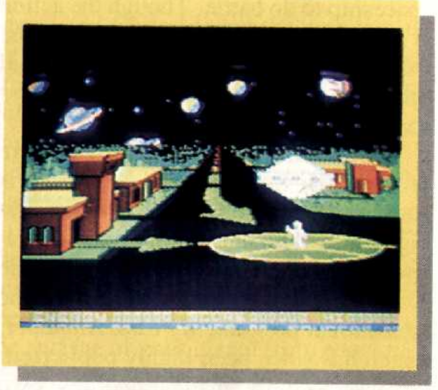
If you like games of this ilk, however, *Air Strike* will not disappoint. Nor will it lose its challenge for quite a while.

SOFTWARE PROFILE

Name: Air Strike
Type: Arcade game
System: Atari 400/800/1200 16K
Format: Disk/cassette
Language: Machine
Summary: Nicest package we've seen from outside the U.S.
Price: $39.95
Manufacturer: English Software
P.O. Box 3185
Redondo Beach, CA 90277

ASTRO CHASE

The other day associate editor Owen Linzmayer was on the phone with a non-computer-type member of the press, being grilled about his favorite arcade games. When asked what game *of the last twelve months* offered the best home computer graphics, he turned to me and asked *"Astro Chase?"* I nodded in agreement. *Astro Chase* really does look good.



But looking good does not make a games package. What is even more important is that it plays well, too.

You are engaged in interstellar war with enemy ships converging from all sides. The playfield is an impressive full-color, scrolling galaxy, with planet earth in the center. You can move in any of eight directions, until a force field at the rim of the galaxy turns you back. You need not fear collision with the force field or planets and stars, as your anti-matter engines will reverse upon contact with them. They must be navigated around, however, and careless navigation wastes precious time. The primary danger to your ship is contact with or fire drawn from enemy ships, and this is a real challenge, as their philosophy can be summed up in a single word: *kamikaze*. And that's not all.

Unless you are able to destroy the numerous death stars converging on the earth within the allotted time, the earth will be destroyed, and you along with it. Enemy cruisers will, of course, do their level best to deter you from your objective. You have mobility, firepower, and shields to aid you, but you will need unflagging vigilance to reach your goal.

Do not stray too far from earth: leaving it unprotected for even a few seconds may spell its doom.

The package makes use of player/missile graphics, fine-scrolling, and four-voice Atari capability, which sets it far apart from interstellar shoot-'em-ups available for any other machines. The intermissions in *Astro Chase* are without question the best I have ever seen on the Atari computer. There you are, depicted as the astronaut beaming into your spaceship to do battle. Though the action is only tenuously connected with the main action, they are fun to watch, and provide a quick breather before the pressure of the next round ensues.

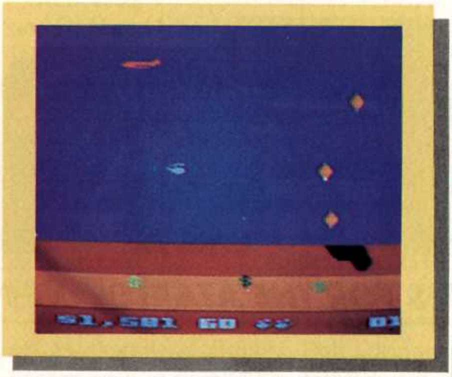
Astro Chase is by Fernando Herrera of First Star Software. The company is so-named because Herrera won the first big prize awarded by Atari to user-developed software. The award, known as the Atari Star, was given to Herrera for the educational program *My First Alphabet*, which has since been highly publicized. He has recently inaugurated his own software company, and if *Astro Chase* is indicative of the coming quality of its product line, he can expect to be very successful indeed. *Astro Chase* is a next-generation winner.

SOFTWARE PROFILE

Name: Astrochase
Type: Arcade game
System: Atari 400/800/1200 32K
Format: Disk/cassette
Language: Machine
Summary: A very playable game with superb graphics.
Price: $29.95
Manufacturer: First Star Software
22 East 41st St.
New York, NY 10017

BURIED BUCKS

We don't see as much originality in video games as we have occasionally wished, but once in a while a package appears that takes a unique premise and develops it into a new game that bears little resemblance to anything that has come before. *Buried Bucks*, from Analog Software, fits this description and works its premise into an addictive arcade game.



In this game you are a helicopter pilot, carrying a supply of bombs with which you can strategically carve out screen terrain to reach valuable gold deposits. Your score in *Buried Bucks* is, appropriately, measured in dollars. A running total of the treasure-hunting expenditures you make is continually displayed, and as using a helicopter is an expensive proposition, your nest egg is whittled away quickly as you play.

By dropping bombs one on top of another from your hovering ship, you dig a trench down to the waiting lodes indicated by flashing dollar signs and located at various distances below the surface. Once a treasure is uncovered, you must carefully maneuver your chopper into the trench to pick it up. If you make it back to home base with the treasure, the monetary bonus is added to your score.

You can carry only so many bombs per run, as well. If you run out, you must return to base to reload. In the meantime, planes fly overhead, dropping great loads of dirt. The loads not only refill trenches where they hit, but can knock your chopper out of the sky. There is nothing you can do but keep dodging them as they fall. You are most vulnerable when descending into a trench to recover a treasure. Many a trench has become a helicopter gravesite.

As if there was not enough to worry about in *Buried Bucks,* boulders and floods also act to complicate the treasure retrieval process. If a trench fills with water, recovery of a treasure in that trench becomes impossible. Boulders defy destruction, and new routes, other than straight down, must be found around them to the treasures.

The level of graphics and sound in the program is utterly professional. As opposed to some other packages we have seen from Analog, that were frankly rather amateurish in their execution, *Buried Bucks* not only achieves an acceptable level of sound and animation, but provides a challenging and diverting game scenario. It is important in games of this kind to impart to the player a consistent sense of the "physical world" within the program. This package succeeds in creating that illusion, which in large part accounts for its success.

BOULDERS AND FLOODS COMPLICATE THE PROCESS.

It would be fair to say that I "dig" *Buried Bucks* quite a bit.

SOFTWARE PROFILE

Name: Buried Bucks
Type: Arcade game
System: Atari 400/800/1200 16K
Format: Disk/cassette
Language: Machine
Summary: A unique and engaging game
Price: $29.95
Manufacturer: Analog Software
P.O. Box 23
Worcester, MA 01603

CLAIM JUMPER

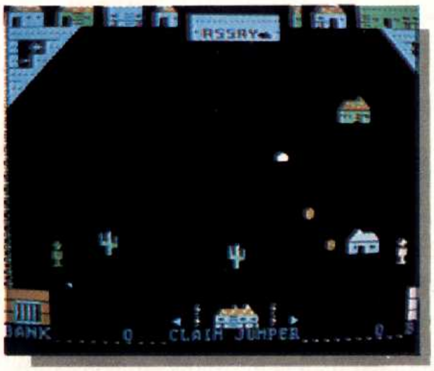
The main claim to fame of George Chang's *Claim Jumper* is that it is in the small but precious category of simultaneous two-player games. Instead of multiplayer modes wherein players take turns, both players share the *Claim Jumper* screen together. In fact, they are each other's worst enemies—doing whatever is feasible to stop an opponent's progress.

The goal here is gold, and the Old West is getting rather crowded. You must avoid all manner of obstacles while picking up nuggets, ferrying them to the assayer's office, and then lugging your gains to the safety of the bank. Your tools in this task are your trusty six-shooter, and a bizarre brand of seeds you may sew to liquidate pesky hangers-on. Enough dough in the bank secures a house (shades of Monopoly) and edges you closer to success. The first player to acquire 25,000 points is declared the winner.

Claim Jumper has a humorous mood about it, the graphics are crisp and stylish, and the pace is frenetic. Chances are you and your opponent will both be laughing by the middle of any game, even as the competition heats up.

If you are hit you end up in Boot Hill, and though you can be reincarnated endlessly, death wastes a lot of time. It also results in the dropping of any goods in your possession, to your opponent's immediate advantage. Depending on the level of aggression you choose to mete out to your opponent, you can either go about your prospecting business or blast the other guy just as he reaches the assayer, take his nugget, and keep it for yourself. Needless to say, he may choose to reciprocate with his own poor behavior.

The kids are bound to have a lot of fun with *Claim Jumper*, as it balances the right amounts of whimsy and competition. Although there is a solitaire version, it is of much less play value than the standard two-player game. The real fun comes when you are on the playfield with a human opponent.



SOFTWARE PROFILE

Name: Claim Jumper
Type: Arcade game
System: Atari 400/800/1200 16K
Format: Disk/cassette
Language: Machine
Summary: An excellent simultaneous two-player effort
Price: $29.95
Manufacturer: Synapse Software
5327 Jacuzzi St.
Richmond, CA 94804

DEFENDER

When an arcade game is transplanted to a home computer, certain compromises must be made. While many of us look forward to the day when micros with truly arcade-quality graphics make their way into the home, we do not expect current arcade translations to be utterly true to their namesakes. Raster scan technology, for one thing, disallows the superlative color graphics of a coin-op game on a home TV set.

I do, on the other hand, require an arcade translation to be true to the *spirit*, if not the letter, of its inspiration. Like literary translations, arcade translations must at the very least remain true to the feeling of the original work, or else real trouble ensues.

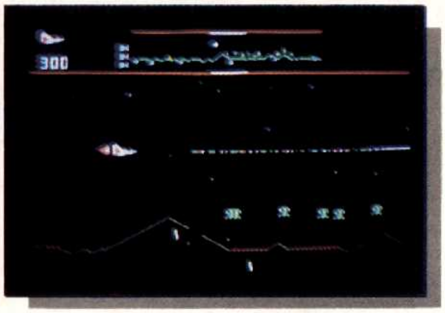
One real compromise that had to be made in bringing *Defender* to the home screen was that of joystick as opposed to push-button control. Short of marketing a custom peripheral along with the game (which is not unthinkable but would have added appreciable cost to the package), any new, joystick-oriented input configuration, regardless of its design, must alter the flavor of the game substantively.

And the solution found in Atari *Defender* does have its own flavor, although it is not by any means a bad one. For some I'm sure the new controller will make a formerly unplayable game playable. But to the purist, the only alternatives available are the purchase of a pushbutton controller and the homebrew design of a custom pushbutton controller. (See the November 1982 issue of *Creative Computing* for an article on this topic.) Otherwise game play will seem quite removed from the original.

A REAL ATTEMPT HAS BEEN MADE TO CAPTURE THE LOOK OF THE ARCADE VERSION, DOWN EVEN TO THE EXPLOSIONS.

In terms of the screen graphics provided by *Defender*, they are more than satisfactory. A real attempt has been made to capture the look of the arcade version, down even to the explosions. In fact, it looks to me as if bit-mapped players have been used in lieu of player/missile techniques, which would have been smoother, but have looked less like the coin-op game.

Defender is one of those "no time to inhale" shoot-'em-ups, of the kind that some people adore and others abhor. I was never much good at the arcade game, and while I loved the graphics as well as the sense of mobility the game afforded, my quarters were lost too quickly to foster a lasting relationship. I am much better at the home version, and the addictive pull is undeniably there. *Defender* is very good of its kind.



In case you have been living in Siberia for the past two years, allow me to describe for you the general scenario of the game. You are called upon to defend the surface of your planet from attacking aliens. The screen scrolls left or right, depending on your direction of flight, and you feverishly work to clear successive waves of the little beasties.

Meanwhile, the bad guys are intent on plucking innocent victims from the surface and changing them into malevolent drones. You must do all within your power to stop this dastardly habit. Carelessness will cost them their lives, but allowing their transformation is a fate worse than death. When things get really hot, you can detonate a smart bomb, but only once per wave.

It is very hard to avoid falling into a trancelike state while playing *Defender*, which results in your letting your guard down, and very quickly getting blown away. Keep blinking to avoid hypnosis, but don't blink too long—oblivion can strike in the bat of an eyelash.

Defender will most definitely keep you coming back for more.

SOFTWARE PROFILE

Name: Defender
Type: Arcade game
System: Atari 400/800/1200 16K
Format: ROM cassette
Language: Machine
Summary: An admirable approximation of its namesake.
Price: $34.95
Manufacturer: Atari, Inc.
1265 Borregas Ave.
Sunnyvale, CA 94086

FOUR

GREAT GAMES FOR THE TIMEX SINCLAIR/BY DAVID GROSJEAN

MOTHERSHIP

Mothership is a space combat game with a 3-D simulation. The top half of the screen shows the stars of outer space on a stationary background while the bottom half shows a trench (similar to the one in *Star Wars* in which the Death Star is destroyed). You are in your fighter flying down this trench. Your controls (left, right, up, down, and fire) are easy to learn. The illusion of depth comes from the use of converging lines to show the trench, and the illusion of flight from the constantly changing display.

At first you are fighting drones which emanate from the huge mothership seen cruising back and forth across the top of your screen. They fly toward you while shooting, or they simply fly at you on suicide missions.

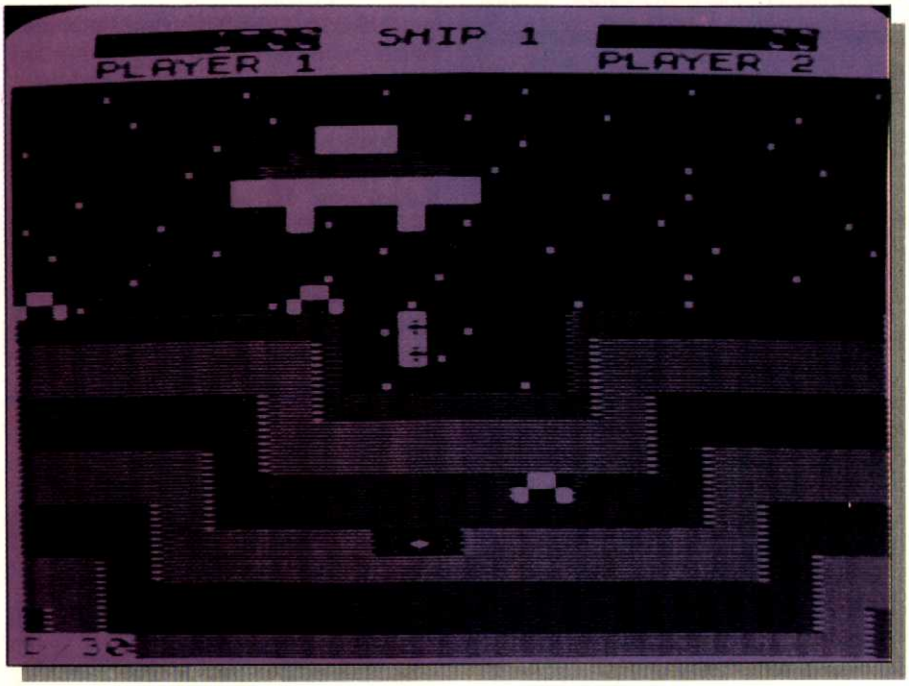
The drones are worth from 100 to 500 points depending on where you are in the corridor. The higher up in the corridor you are, the more the drones are worth, and the faster everything moves. After shooting ten drones without losing one of your ships, the drone attack stops, and the mothership begins shooting at you. You must hit it three times before it is destroyed. You are awarded from 1000 to 5000 points depending on where you are in the corridor.

There are three levels of difficulty. In the first, the drones do not shoot at you. In the second, they do. The third level is just like the second except that it is much more difficult. You do not crash if you hit the sides of the corridor in the first two levels, but you do in the third.

This game is simple, yet it can get very difficult. The speed, smoothness, and excellent use of graphics make this a superb game and a lot of fun.

SOFTWARE PROFILE

Name: Mothership
Type: Arcade game
System: 16K Sinclair ZX81, Timex/Sinclair 1000
Format: Cassette
Summary: Excellent 3-D Space batter
Price: $16.95.
Manufacturer: Softsync, Inc.
14 E. 34th St.
New York, NY 10016.



SEA WAR

In *Sea War* your submarine is displayed just below the surface of the water, and your mission is to destroy the enemy U-boats, warships, and helicopters, all of which are capable of destroying you.

The game starts by scrolling from right to left a very impressive and fast "title page" asking for the number of players (the limit is two). A large ship then travels across the screen and deposits your submarine; then the action starts.

The water surface is constantly moving, and the enemy shots are constantly assaulting you. Later in the game the enemies, mainly the subs, practically cover the screen with shots; this is when the game gets very hectic. The most notable features are the helicopters and your death scene.

You have five controls—up, down, forward (you drift back if your finger is off the key), fire up, and fire across. You must destroy the helicopters by firing up, the warships by firing either across or up, and the U-boats by firing across. Helicopters earn you 100 points, warships 50 points, and U-boats 20 points. At 1000, 4500, and at several subsequent intervals you get additional subs.

Sea War is an excellent game—one of the best shoot-'em-ups I have seen. The use of graphics is astounding. The action is quite fast (it is all machine code) and the controls are a little difficult to get used to. Although a full keyboard is best for playing this game, the TS1000 keyboard is adequate.

SOFTWARE PROFILE

Name: Sea War
Type: Arcade game
System: 16K Sinclair ZX81 or Timex/Sinclair 1000
Format: Cassette
Summary: Watery shoot-'em-up
Price: $9.95
Manufacturer: Panda Software
51 Elgin St.
Shelton, Stoke-on-Trent ST4 2RD,
England.

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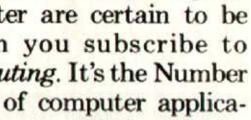

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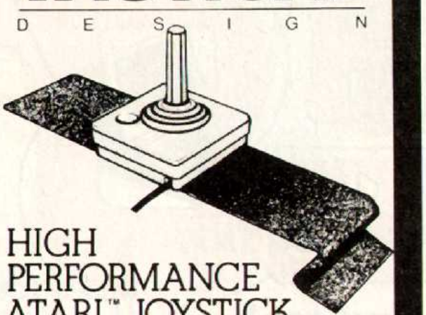

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MONSTER MAZE

In *3D Monster Maze* you are in a maze running away from T. (Tyrannosaurus) Rex. The object is to get out alive!

The game begins with a circus barker telling you the background of the maze. He then gives you the choices of seeing the instructions, quitting, or starting. The computer takes less than 30 seconds to set up the maze, and then the action begins.

"RUN HE IS BESIDE YOU."

You are walking (or running) down a corridor which has dark black walls; the corridors branching off your path have gray walls. Messages at the bottom of the screen give you reports such as "He is hunting for you," "Rex has seen you," and "RUN he is beside you." Each step increases your score by 5 points. When you reach the exit, you are awarded 200 points and put in a new maze. The instructions do not tell you what the exit looks like, but, when you see it, you know that you have escaped.

The game is very easy to learn to play, but it is difficult to win consistently. The controls are simple: the arrow keys are used to indicate left, right, and forward (up).

The program uses Basic and machine code (to produce and move the pictures quickly). Although the pixels on the TS1000 are rather coarse, the 3-D simulation is marvelously effective. The illusion of a corridor with extension is created by converging lines, and Rex gets larger as he gets closer. The simplicity and speed of this program make it fun for all ages.

SOFTWARE PROFILE

Name: 3D Monster Maze
Type: Arcade game
System: 16K Sinclair ZX81 or Timex/Sinclair 1000
Format: Cassette
Summary: A 3-D maze game with pre-historic overtones
Price: $14.95
Manufacturer: Melbourne House Software
Dept. CS
347 Reedwood Dr.
Nashville, TN 37217

MAZOGS

In *Mazogs* you are an adventurer in search of treasure hidden in a *huge* maze. You must find the treasure and return to the entrance of the maze within a predetermined number of moves.

Scattered throughout the maze are creatures called Mazogs whose job is to kill you. You can kill the Mazog if you have a sword (you either find one lying around in the maze or exchange half your moves for one); however, if you get into a fight with one and do not have a sword, you have a 50/50 chance of surviving. Killing a Mazog increases the number of moves you have.

Also scattered in cells throughout the maze are prisoners who help you by telling you which way to go, but their directions will take you only a short distance.

Several commands help you in the search. For example, View shows a larger part of the maze than the 20-space window around you. Status Report tells how many moves you have left, how many moves to the treasure, and how many moves the various commands cost.

After starving to death (running out of moves) or successfully returning to the entrance with the treasure, you can see the full maze which is four screens large. At any point you can quit the game, and the computer will tell you how far you got. After losing or successfully returning to the entrance with the treasure, you can look at the maze and solution.

Mazogs is an excellent graphics adventure game. It is outstanding because of its mixture of complexity and simplicity, its speed, and its ability to start the new player off on the ground floor. The use of graphics is especially impressive. You, the Mazogs, the treasure, and the sword are represented as moving figures, not tokens. There is a great deal of action in a fight with a Mazog. With three levels of difficulty you will be challenged for hours. The documentation is also good.

SOFTWARE PROFILE

Name: Mazogs
Type: Maze/adventure
System: 16K Sinclair ZX81 or Timex/Sinclair 1000
Format: Cassette
Summary: An innovative combination of an adventure and a maze game
Price: $19.95
Manufacturer: Softsync, Inc.
14 E. 34th St.
New York, NY 10016

UPDATE

GAME CONTROLLERS AND ACCESSORIES/BY DAVID H. AHL

Not long after the first microcomputers came on the market, a then-small company, Cromemco, introduced an A to D (analog-to-digital) and D to A board for S-100 bus computers. Shortly thereafter they introduced the first joystick for a small computer. We got a pair at *Creative Computing* and waxed enthusiastic about the game-playing possibilities that they opened up.

However, it was not until several years later that the Apple computer and the Atari VCS game system came on the market with controllers included. But the Apple controllers did not pass the allowable FCC emissions guideline so Apple stopped selling them. As a result, Apple owners could no longer get controls to play the hundreds of games on the market.

Free enterprise came to the rescue in the form of small companies who developed replacement paddle controls for Apple owners. Surprisingly, it took much longer for the joystick to gain in popularity, perhaps because Apple never made one of their own. It is also surprising that, with all this flurry of activity to make Apple game controllers, manufacturers did not look sooner into the much larger replacement market for Atari VCS (and computer) controllers.

Today, replacement controllers are a big business. Firms in the coin-op replacement controller business are rushing to market with home versions. Even Apple is back in the act with their purchase, about a year ago, of The Keyboard Company which has been renamed the Apple Accessories Product Division.

In the last issue of *Video & Arcade Games* we ran a lengthy evaluation of every known controller for video game systems and home computers on the market at that time. Needless to say, new ones are being introduced at a rapid rate. Also, the controller business is beginning to diversify with cable splitters, rapid fire modules, track balls, and many other accessories.

Presented here are reviews of 12 new controllers and 11 accessories. A word about our reviews: these are not one person's opinion. Each control is tested and used by all the members of our playtesting panel of adults and children. We have people of both sexes over a wide age range. Thus, our evaluations are objective, in-depth, and, we hope, useful.

QUESTAR JOYSTICK

After many hours and days of playing coin-op arcade games, most people develop a few blisters and callouses on the thumb and fingers from holding a joystick. But have you noticed that just the opposite is true with home games? The raw spots tend to appear on the hand that holds the case of the joystick in place. We find this one of the most fatiguing and frustrating aspects of home games compared to arcade games.

But now Questar has a solution in the form of a joystick with a huge console base. Trapezoidal in shape, the base is an average of 12½" wide × 8" deep with a top that slopes from 2" in the front to 3" at the rear. It has four big ¾" square rubber feet and a solid feel despite the somewhat light plastic construction.

The joystick itself is an arcade-style unit with a big 1¼" diameter knob atop a 2½" shaft. It uses four leaf switches and a rubber gimbal that permits movement in eight directions. The throw is a short ¼" in each direction for quick response on all types of games.

The unit has two big ¾" diameter firing buttons, one on each side. Thus, it is suitable for both right- and left-handed players.

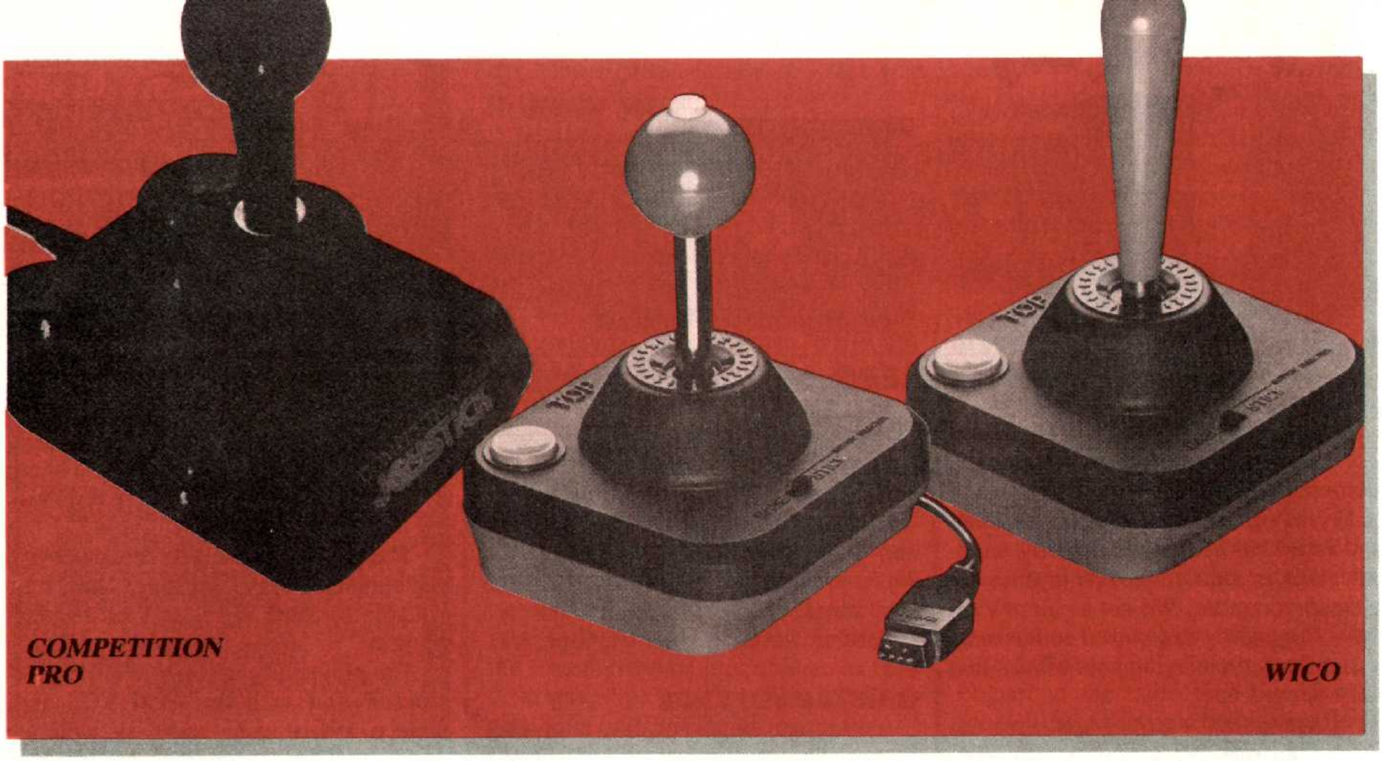
The playability is great. We tried the Questar unit with the Atari VCS and Coleco video game units as well as Apple and Atari computers and it came through with flying colors. In some cases, we didn't have room to put the unit on a table and wound up with it in our laps. Still, it worked fine and required much less effort from the non-playing hand to hold it in place.

The Questar unit is equipped with a generous five-foot cord and provided all-around excellent playability.

WICO JOYSTICKS

During the past year, Wico, a major manufacturer of replacement controls and parts for the coin-op industry, introduced a comprehensive line of controllers for home games. We tested seven Wico controllers and accessories and found them to be of generally excellent quality.

Wico makes three joysticks that are outwardly somewhat different, but inter-



nally are identical. They are called the Command Control Joystick, Joystick Deluxe, and Famous Red Ball Joystick. We playtested the standard and Red Ball joysticks. The Deluxe model is the same as the standard model except that it has a larger housing, the top of which is slanted back at an angle of about 15 degrees.

All three are switch-type joysticks of the Atari flavor although they can be used with other systems with appropriate Wico (and other) adapters.

The standard and Red Ball sticks have a 4½″ square base with pronounced rounded corners. It is 1½″ high but rises nearly another inch at the center where the stick is mounted. The standard stick is 4″ long and tapers to just shy of 1″ in diameter at the top. The Red Ball stick is 3½″ and terminates in a hand-filling 1½″ ball.

The internal mechanism on all the Wico sticks is of arcade design. A nylon ball at the lower end of the shaft presses against the contacts of four leaf switches. There are all types of leaf switches ranging from just two pieces of spring steel to high-quality switches like these; the contacts are diagonal to each other and a second piece of spring steel is mounted behind the "fixed" contact to insure that it does not get distorted after hours of hard use.

The joysticks are equipped with two firing buttons, one on the top of the stick and the other in the "usual" place on the top left corner of the housing. A small slide switch in the lower center of the housing selects which firing button is to be used. This is handy because if you are used to a full-fisted grip on the ball, you could easily press the firing button accidentally. On the other hand, if you want to use the button in the stick, having the other one deactivated means that you can hold the housing any way you wish without danger of unintentionally loosing off a shot.

The smallish ⅜″ diameter firing button in the handle has a very short throw (less than 1/16″), however, the one in the housing is much longer. Never fear, you won't miss with the large ¾″ button.

The Wico joysticks provided excellent playability on all games. The red and black styling is attractive, as are the packaging and instruction booklet. The high quality design means they should stand up for a good while; indeed they come with a one-year warranty. They get our highest rating.

YOU CAN HOLD THE HOUSING ANY WAY YOU WISH WITHOUT DANGER OF UNINTENTIONALLY LOOSING OFF A SHOT.

COMPETITION-PRO JOYSTICK

With the Competition-Pro joystick, Coin Controls joins the ranks of coin-op replacement equipment manufacturers taking arcade-style joysticks and putting them in a case for home use.

The Competition-Pro uses four leaf switches activated by a nylon bushing on the end of the joystick shaft. The shaft is held by a rubber gimbal that permits movement in any direction. This is sometimes called eight-way movement since the stick will activate one switch in the N, E, S, or W directions and two switches in a diagonal direction.

The joystick has a big 1¼″ no-slip ball as an integral part of the nearly 3″ shaft. Throw is a short ¼″, providing good control in most games.

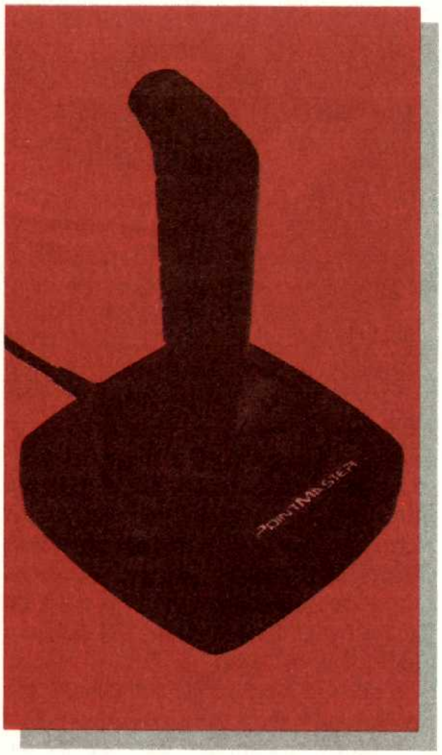
Two big 1″ diameter firing buttons are mounted on each side of the top of the housing, so the stick is equally suitable for right- or left-handed players. The firing buttons have an extremely short throw which helps in getting off a barrage of quick shots in shoot-'em-up games.

The case is somewhat larger than the original equipment Atari stick, measuring 3½″ × 4½″. It has rounded corners so it is less fatiguing to hold than some other units. Four small rubber feet make it suitable for table top use as well as hand held operation.

In summary, the name says it all—"Competition-Pro," a competition joystick for the serious player.

POINTMASTER JOYSTICK

The PointMaster joystick represents a new direction for Discwasher, the record



care folks. We're happy to see it.

PointMaster has a handle best described as being for a fist grip. Unlike joysticks that have a ball on top of a shaft, the PointMaster has a partially contoured handle a full 4″ long designed to be gripped with your entire hand.

The rectangular firing button sits on top of the handle and is pressed with your thumb. No right or left hand favoritism here; you press the button with the same hand you have wrapped around the handle. Firing button movement is exceptionally short and fast. Some players didn't like thumb control, but they were in the minority.

The mechanism is similar to that in the original Atari stick, i.e., movement of the stick activates small dimpled contacts on a printed circuit board in the base of the unit. Throw is a longish ½″, but this is hardly noticeable with your entire hand wrapped around the stick.

Players especially liked the PointMaster for shoot-'em-up games (for *Star Raiders,* it is dynamite!) but had mixed reactions for maze games (Pac-family) and jumping games (Frogger family). However, the stick can be gripped with the thumb and forefinger for maze and jumping games and led to some excellent scores.

The base is 4″ square with rounded corners and the cable is five feet long. All in all, an excellent stick, particularly for games requiring fast maneuvering and firing.

SUPER CHAMP JOYSTICK

Our first exposure to the Super Champ Joystick was when we met Andy Wu and Eugenia Chan of Championship Electronics at the Winter CES. They were selling their prototype Hong Kong-made joysticks on the closing day of the show. However, they asked that we wait a few weeks for a final production unit. It was worth the wait!

This joystick is designed using the lessons of thousands of hours of play with other sticks. The handle is the type that you wrap your hand around. At 4½″ in circumference, it is suitable for both adults and children.

Some people like a top-mounted thumb-activated firing button; others like a trigger type activated with the forefinger. Super Champ has both. Furthermore, they have an extremely short throw, providing fast action in all types of games.

We have come to expect that joysticks with a long 5″ handle as found on Super Champ require at least ½″ movement (at the top) to activate the switch contacts. Not so with this stick; just a tad over ¼″ activates the contacts thus making it one of the quickest sticks with which we have ever played.

A novel idea on the Super Champ is the cord winder in the base of the unit. You simply pull the cord out to whatever length you wish (up to an astonishing 9′ 9″), and, when you are finished playing, turn the joystick handle to wind it back into the base. This does lead to one slightly disconcerting factor: the joystick is free to rotate (as though it is winding the cord) during play of a game, however, it did not seem to hamper game play.

Four suction cups on the base of the housing hold the joystick to any smooth surface. If you have such a surface available, you'll appreciate this feature as it helps to eliminate the aches and fatigue from holding the joystick housing with your non-playing hand.

If it sounds as though we are enthusiastic about the Super Champ, we are! This is a high quality joystick that will bring you many hours of first rate playability.

TRIGA-COMMAND JOYSTICK

The Triga-Command joystick appears at first glance to be a massive unit although the base measures only 4″ square by 1½″ high. The handle, however, is designed to be gripped by the whole hand, preferably a large hand, as it measures nearly 6″ in circumference and 5½″ in height. Children and women will have a tough time getting their hands around this monster. A lever-type trigger is mounted in the top of the joystick handle.

In contrast to its massive size, the stick moves exceptionally easily and responds to the slightest touch. This was somewhat disconcerting at first since we had the impression that something designed to be gripped by one's whole hand required strength to move. Once we got used to the light touch, we found the stick excellent for *Star Raiders* and similar games. It was less suitable for maze games, being almost too responsive.

With the trigger in the handle, it must be fired by the forefinger. For certain games, we prefer firing with the opposite hand from the one controlling the stick; this, of course, was not possible with the Triga-Command.

Triga-Command has four suction cups on the bottom so it can be affixed to a smooth surface for really serious play. Unfortunately, under vigorous use, the suction cups pulled out of the base and we soon found ourselves with a handheld unit.

Triga-Command has some nice strong points (large grip, forefinger trigger, high sensitivity) but some offsetting weaknesses. We advise you to try it if you can before you buy one to make sure it meets your needs.

ZIRCON VIDEO COMMAND

We reviewed the Video Command stick on these pages previously, however, Zircon has made an important design change that improves playability enormously. In particular, they have added a firing button in the handle of the unit.

The Video Command unit is designed to be held with one hand while the moveable stick is manipulated with the other. Alternatively, the thumb of the hand that is holding the unit can be used to move the stick. The stick makes contact with very little movement and gives fast maneuverability in all games.

Now, in addition to the quick movement, the unit provides fast firing with the handle-mounted button. This is easily activated with either the forefinger or middle finger of the gripping hand.

While the Video Command unit was well-liked by members of our playing panel, some children and adults with small hands seemed to have trouble getting a good grip on the largish handle (5½″ circumference).

The Video Command unit has an extra-long six-foot cable. More important, it was the stick used to get some of the highest Star Raiders scores ever.

KRAFT
KRAFT

KRAFT PADDLES FOR APPLE

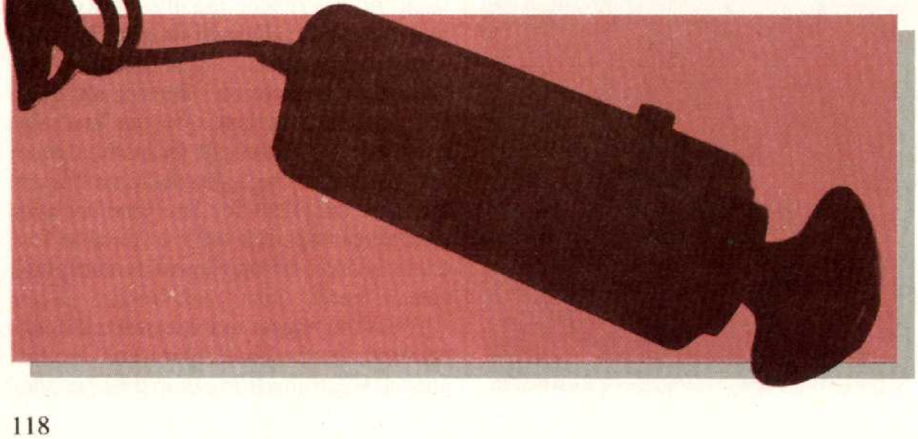
In our previous review of the Kraft Apple paddle controls, we noted that our playing panelists had mixed reactions to it having only 60 degrees of rotation (compared to 300 degrees on most other units). Kraft obviously heard this from other customers as well and has redesigned the control to provide 180 degrees of rotation.

We feel that this is a happy compromise. With less rotation, your hand doesn't have to get into awkward positions to adjust the control to its extremities. Although most people have learned to cope with 300 degree controls, less rotation is really much more pleasant.

Panelists still had mixed reactions about the large 2″ diameter knurled knob with some still showing a strong preference for a small 1″ to 1¼″ diameter knob. Seems to be a matter of personal preference.

The Kraft housing is a bulky 4″ × 4″ × 2¼″ with a ⅜″ square firing button located on top in the upper left hand corner, a position favoring righties. It provided good firing control and was not fatiguing to use.

In summary, with 180 degrees of rotation, the Kraft paddles provide precise control for the most demanding game player and, if 2″ knobs are your cup of tea, you won't find a better unit on the market.



KRAFT COLOR COMPUTER JOYSTICK

In our review of the Spectrum Projects joystick, we noted that things were looking up for Color Computer owners with second source joysticks starting to hit the market. Now, with the Kraft entry, the situation has taken a mighty leap forward.

Kraft produces an outstanding Apple joystick and they have now taken that technology and applied it to one for the Color Computer.

The joystick knob is ⅜″ in diameter on the end of a 2″ shaft. The shaft moves two good quality potentiometers. Centering in each direction can be adjusted by means of two small levers which rotate the "home position" of the pots slightly.

A delightful feature, which we wish was on more joysticks, allows self-centering to be turned on or off without opening the housing. Two small switches on the bottom of the housing permit you to engage or disengage self-centering at will. Until now, Color Computer owners have not been able to experience the joys of a self-centering joystick, much less one that can go back and forth. We guarantee that you will be amazed at the improvement in game playability with this feature; one playtester raised all of his previous high scores by 15-25% with this stick.

The action of the control is neither too loose nor too tight; it is just right. The firing button has a longish throw, but its action is more positive than that on the original equipment stick. The firing button is on the top of the housing in the upper left corner thus favoring right-handed players.

All in all, the conclusions about the Kraft Color Computer joystick are the same as those in our previous review of the Kraft Apple joystick, namely, "highly recommended."

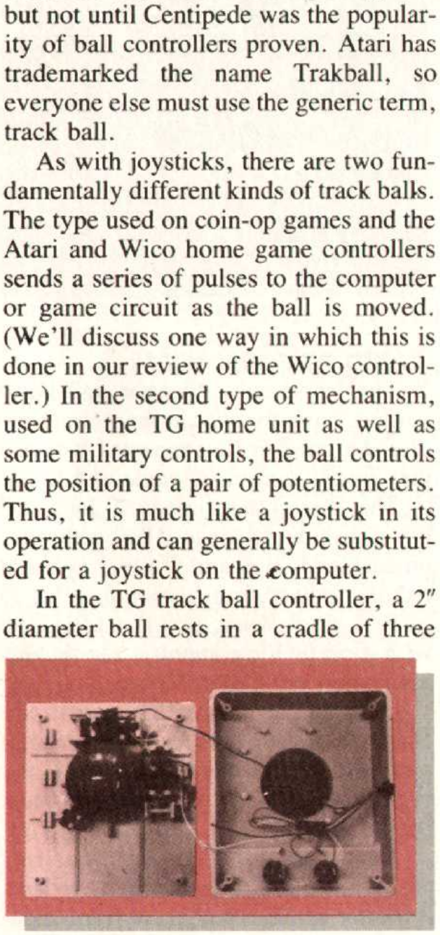
AS WITH JOYSTICKS, THERE ARE TWO FUNDAMENTALLY DIFFERENT KINDS OF TRACK BALLS.

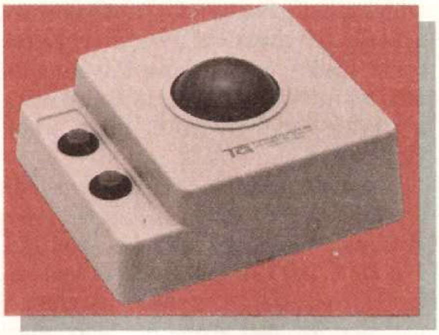
TG TRACK BALL CONTROL FOR APPLE

Atari developed the first ball controller for a coin-op game back in 1978. It found its way onto several sports games but not until Centipede was the popularity of ball controllers proven. Atari has trademarked the name Trakball, so everyone else must use the generic term, track ball.

As with joysticks, there are two fundamentally different kinds of track balls. The type used on coin-op games and the Atari and Wico home game controllers sends a series of pulses to the computer or game circuit as the ball is moved. (We'll discuss one way in which this is done in our review of the Wico controller.) In the second type of mechanism, used on the TG home unit as well as some military controls, the ball controls the position of a pair of potentiometers. Thus, it is much like a joystick in its operation and can generally be substituted for a joystick on the computer.

In the TG track ball controller, a 2" diameter ball rests in a cradle of three rollers. One roller is geared to the Y potentiometer, one to the X pot, and the other is a free roller diagonally opposite the other two. The pot to roller gear ratio is 3.4:1 and the roller to ball ratio is 1:2, thus it takes 1.7 rotations of the ball to move the pot from one extreme to the other.





How did it work in game play? Unfortunately, there were some minor glitches. If the ball gets at all wet from a sweaty palm it tends to slip a bit; remember these are plastic rollers turned by friction and water is an excellent lubricant. Moving the ball to the right and down provided positive, accurate control. This is because in these directions the ball pushes the roller shafts down into their bearings and thus the gears make good, positive contact. Movement to the left and up tends to lift the roller shafts just a tad and they push against the posts in the top of the housing which seems to have just a bit of "give." Apparently this allows the gears to come apart slightly and thus not provide perfectly accurate control. This is reasonably easy to remedy by rolling the ball slightly less violently than one might be tempted to do in vigorous game play.

Since the track ball must be rolled considerably further than a joystick must be moved (1.7 turns is subjectively much further than moving a joystick handle 2"), the control seems to be sluggish compared to a joystick. Thus, although it is electrically equivalent, we did not find that it could be substituted on a one-for-one basis from the standpoint of playability.

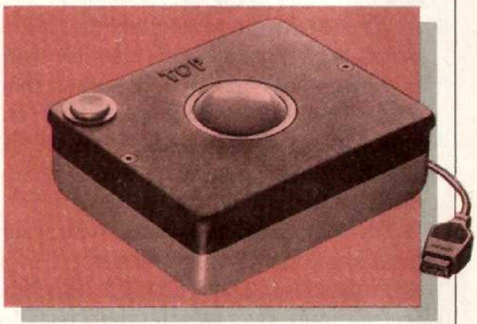
Naturally, we tried the control on Apple versions of Centipede and Missile Command *(Photar, Nightmare Gallery,* and *ABM)*. We found it quite satisfactory for playing *ABM,* adequate for *Nightmare Gallery,* and unsatisfactory for *Photar*. We tried it on several other games with the same mixed results.

In summary, the TG track ball controller is a novel and interesting device. If you already have paddles and both potentiometer and switch-type joysticks, you will certainly want to get a track ball. As this is the only Apple version currently available that works with existing games, you don't have a wide range of choices.

WICO TRACKBALL

Wico has introduced five trackball controllers for Atari games and computers (also Vic), TI, Apple, TRS-80 Color Computer, and Odyssey video game units. We playtested the Atari version.

The unit measures 5" × 6" × 2" and has a 2⅛" phenolic ball protruding through the center of the housing. The ball rolls exceptionally easily in all directions and has virtually the same "feel" as trackballs on coin-op arcade games. The reason for the easy rolling is apparent upon opening the housing. (We strongly advise that you do *not* do this!)



The ball rests on two perpendicular rollers and a third idler roller diagonally opposite. Each roller is held in two ball bearings, each of which rests on top of a small spring. Even the idler roller is actually a ball bearing. Thus everything is designed to make the ball roll as freely and easily as possible. Furthermore, we got no slippage whatsoever, even when the ball was moist with sweat.

The method of producing a signal for the computer is ingenius. On one end of each roller shaft is a 1½" disk with 24 small holes. The disk rotates within the beam of a miniature light and photocell. As the light beam is broken by the rotation of the disk, it transmits an impulse to an integrated circuit in the trackball. It is the job of this IC to determine which direction the disk is rotating and transmit an appropriate signal to the computer. This signal is equivalent to moving the joystick in one or two directions.

On both the Atari and Apple trackballs, the power for the photocell and IC are supplied by the computer. The other three require an external AC power supply (included).

So the Wico trackball is an engineering marvel; how does it work? In a word, it is sensational. The firing button in the upper left corner of the housing favors righties; however, it is a big ¾" in diameter and has a short, quick throw. We tried the trackball with Missile Command and scored higher than ever before. Centipede is now just like the arcade game and even many computer games designed for a joystick or paddle controller work fine with the trackball.

On the other hand, owners of other computers, notably the Apple and Color Computer, should be aware that the Wico trackball for these machines is not a one-for-one replacement for the standard analog type controller. Hence, few currently available games will work with the Wico trackball on these computers. However, we would expect to see new ones coming out soon with trackball compatibility.

WICO CONTROL ADAPTERS

Wico makes four adapters that allow switch-type joysticks to function with computers and game units other than Atari, Coleco, and Vic. Adapters are available for the TI 99/4A, Apple II, TRS-80 Color Computer, and Odyssey video game.

These are solid state controllers, each one consisting of four transistors, four potentiometers, and 16 or 18 resistors. Each permits two switch-type joysticks to function with one of the above computers or game systems.

This does not mean that all games on these computers will magically be able to use switch-type joysticks. Many will be able to, but far more will not be compatible. For the most part, maze-type games that require movement in four directions will be able to use the adapter/joystick combination, but games that utilize the exact position of an analog-type joystick or potentiometer will not function with this type of input. Unfortunately, you will not be able to tell which games can use this input until you actually try them out. We thought that some games would work but they did not, while others surprised us by working when we predicted that they would not.

On the Apple, for example, when the joysticks are properly connected, they give output readings of 0, 128, and 255. For the Color Computer, the outputs are 0, 31, and 63. A sample program is included in the instructions to check these values. The trim pots in the adapter can be adjusted (two of ours had to be) to give these values. Functionally, this is the same as the Sirius Joyport, although the way of achieving the result is quite different. In general, games which are designed to use the Sirius Joyport are considerably faster with the Joyport than with the Wico adapter; however, with games that use standard analog joystick input, the Wico adapter is slightly faster than most analog joysticks.

For the TI, Color Computer, and Odyssey units, the Wico adapter is the only alternative to analog joysticks and is a joy to use with games for which it works.

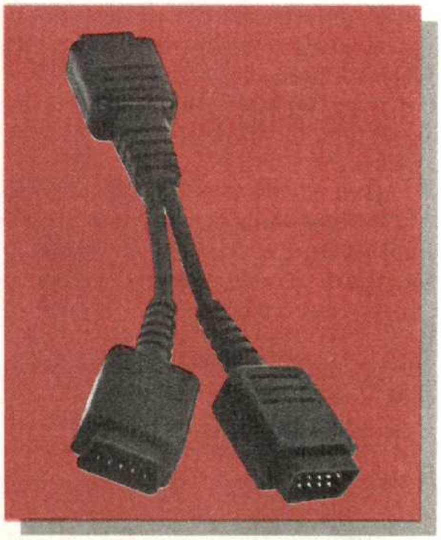
QUESTAR CABLE SPLITTER

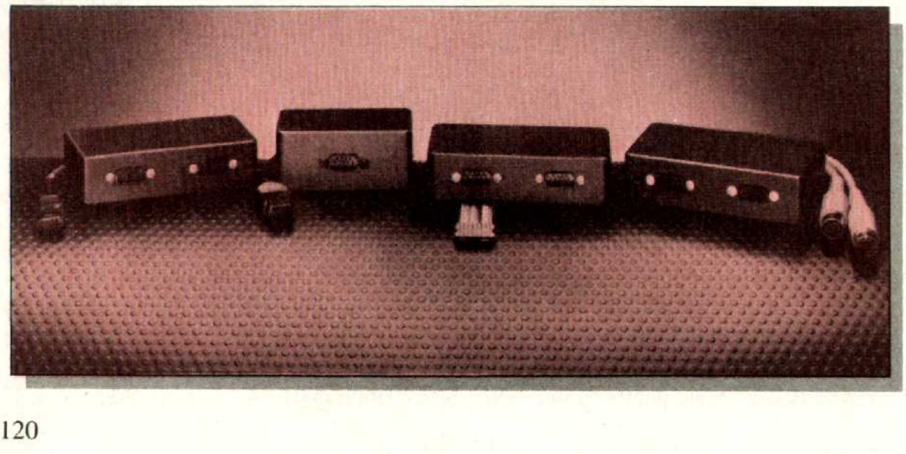
One of the most useful little devices for video game systems, particularly the ColecoVision, is a cable splitter. This nifty device plugs into the joystick port (Atari, Vic, or Coleco) and terminates in two male connectors into which you can plug two joysticks.

Why bother? Several reasons. First, many two-player games in which players alternate turns require that the joystick be passed from one player to the other. With a cable splitter, each player can use his own joystick and passing back and forth is no longer necessary.

With ColecoVision, a good quality joystick (Questar or some other) can be plugged in along with the Coleco unit. The keypad on the Coleco unit can be used for game and speed selection but the other joystick can be used for actual game play. We guarantee you will be astonished at the improvement in your scores using a high quality stick, and this cable splitter makes it easy as pie.

For just a couple of bucks, it is something you won't want to be without. Thanks, Questar.





WE GUARANTEE YOU WILL BE ASTONISHED AT THE IMPROVEMENT IN YOUR SCORES.

RAPID FIRE MODULES

Two companies, Questar and Discwasher, have announced rapid fire modules designed to be connected between the joystick and video game unit.

The Discwasher unit is 2" long and has a male and female DB-9 connector on each end. It is an "active" unit and requires power from the Atari VCS to make it work. Thus, it will not function with Atari or Vic computers nor the Sirius joyport nor ColecoVision.

It provides a constant high rate of fire about as fast as you could constantly press and release the firing button. However, it doesn't get tired whereas most people do.

The Questar unit is a "passive" design and works from energy stored in a capacitor which is recharged from directional contacts. Thus it should work on all videogames and computers which accept a switch-type joystick. We say "should" because we have only seen a prototype Questar unit.

Also, unlike the Discwasher unit, the Questar has a continuously variable rate of fire selectable with a small potentiometer mounted in it.

Beware: contrary to some advertising claims, rapid fire units will not work with all games. In order to work, the game must permit multiple shots on the screen and must check the firing button reasonably frequently for input. In general, rapid fire modules are most suitable for games in the Defender and Asteroids families.

VIDEOMAX VIDEO GAME GLOVE

There is no question that blisters and callouses are the battle scars of playing arcade games and even some home games. Daily soaking in Palmolive won't make these callouses disappear; about the only thing that will is total abstinence which, of course, is quite unacceptable.

Now, however, Nancy Heck of Nancy and Company has a better idea—a game glove. In the package, the glove looks like a nasty gesture; it has only a middle finger and thumb. A double layer of reinforcement is provided on the inside of the thumb, side of the middle finger and across the top half of the palm. This provides ample protection for the three most popular gripping techniques.

The palm and front of the two fingers are made from soft, supple leather while the back is made of a porous nylon mesh. A velcro fastener allows you to adjust the glove as tightly as you wish around your wrist. The glove is available for the right or left hand; in mens, ladies and youth sizes: small, medium, and large; and in white, navy and gold.

Did the Videomax glove improve game scores? No. But it did halt the formation of new blisters and callouses, and if you want to hold hands after a day defending the galaxy, that's important.

If the glove is not available locally, it costs $7.95 by mail from Nancy and Company, P.O. Box 332, Hayward, CA 94541.

ASTRO-GRIP

So you still have that Atari joystick and haven't anted up the bucks for an arcade-style stick. Here is an alternative. Astro-Grip is a dense foam rubber cylinder that slips over the standard Atari joystick. The joystick handle is then a bit over an inch in diameter with a no-slip gripping surface.

Astro-Grip becomes semi-permanent after installation and if you try to remove it, little bits of dense foam will be left on the joystick handle. Frankly, we can't see any reason to remove it once it is installed.

Did it make a difference? You bet. Although it doesn't magically transform the Atari stick into an arcade unit, it improves playability and lessens the fatigue of gripping the sharp top of the Atari stick.

THUMB SAVER

Along the line of Astro-Grip for the Atari joystick is Thumb Saver for the Mattel Intellivision (and Tandy and Sears clones) game controller. Thumb Saver is a 3/16" thick × 1¼" diameter rubber disc with a sticky backing that sticks on the directional disc control.

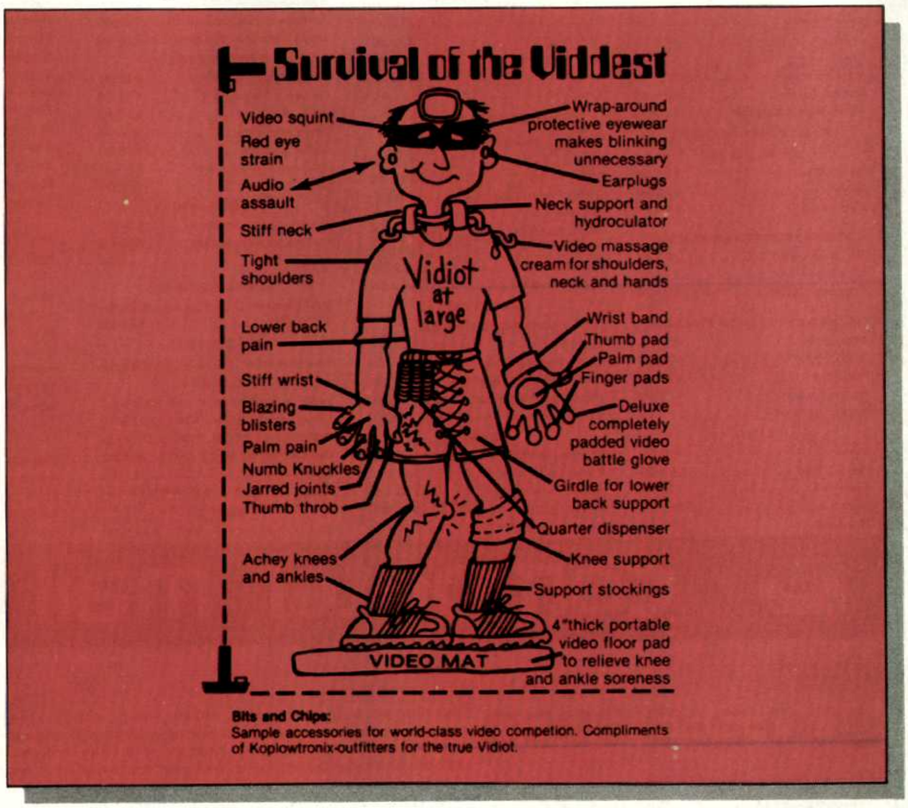
The manufacturer, Video Masters, claims that Thumb Saver improves control response. We have our doubts about that claim, however, it certainly was easier on the thumb than pushing that metal disc on the original controller.

VIDEO SURVIVAL KIT

Packaged in a box exactly the same size as an Atari VCS game or Apple disk game is this handy little kit. The box tells us, "It's your job to defend against 'Red Eye Attack,' escape from 'Blisters and Bruises' and avoid 'Video Headache.' " Will this kit help? Maybe, and maybe not, but it certainly is fun.

Put together by Jim Koplow of Koplow Games, the Video Survival Kit contains two smallish T-shirt transfers ("I'm a Vidiot" and "Do not disturb—Quarter Master at work"), 11 colorful stickers of various sizes, a pair of disguise glasses with bloodshot eyes on a black background, eight passout cards ("May I Be Next?" "Vidiot at Large," etc.), a cardboard quarter holder, ID card, video finger splint, metal Vidiot pin, and eight-page instruction sheet with a 56-word crossword puzzle (you'll need a pencil for this one).

The idea is cute and the kit will provide a few yucks (for a few bucks) for your favorite game freak or even yourself. ■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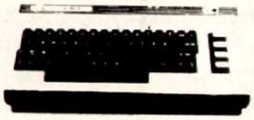
Sample accessories for world-class video competion. Compliments of Koplowtronix-outfitters for the true Vidiot.

GAMES, GAMES & REBATES!



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SELF-CONTAINED GAMES SECTION:

REVIEW

OF POCKET GAMES/BY DAVID H. AHL

SKY INVADERS POP GAME

Technotel's POP games measure just 2½" × 4½" × ½" thick and thus are truly pocket size. *Sky Invaders* is a combination device which displays time, date, and month; sounds an alarm; and plays two games. It is the first game in the dual screen series which provides two entirely different images on the same 1½" × 2" LCD display screen.

Five buttons on the upper left of the unit select the mode of operation, turn the alarm on and off, and so on. Control of the games is by means of two larger soft-touch rubber buttons on each side of the screen for movement and a firing button on the right.

In Game A, a squadron of enemy helicopters drops bombs on your piece of turf. Your job is to shoot down everything in the sky—helicopters, bombs, and jet planes. It's not easy; I rarely scored above 20 points. However, my son took it as a personal challenge to master the game and was soon scoring more than 100 points per game.

DUAL SCREEN
POP GAME
12:00 23
SKY INVADERS

In Game B, that same squadron of helicopters is dropping enemy paratroopers and supplies which you must capture with your truck convoy on the ground before they manage to intrude into your headquarters.

For $29.95, *Sky Invaders* provides a great deal of fun and challenge, and is a real value with the watch and alarm thrown in. Batteries are included.

INFERNO POP GAME

Like the other POP games, *Inferno* is a combination timepiece, alarm and game unit. The unit is pocket size and has a 1½" × 2" LCD display. Three buttons select the mode and set the time, alarm and date, while two larger buttons on each side of the screen are for control of the game.

INFERNO
POP GAME
SUPER SCOPE

The object of *Inferno* is to maneuver the ladders on four fire engines to rescue people who are trying to escape from a burning building, and to keep balls of fire away from the gas tanks at the lower right of the screen.

Successfully fighting a fire is worth 10 points while a rescue is worth only one point; it is wise to keep these priorities in mind while playing the game. If a fire ignites the gas tanks, you get an "error mark;" four errors end the game. However, at 200 and 500 points, all errors to date are annulled.

Inferno has a retail price of $24.95 (including batteries) as do the other eight games in the series.

EMERGENCY POP RADIO GAME

Emergency is one of three new, compact pocket games which feature an AM radio in addition to the time, alarm, and game capabilities. It is just ½" longer than the other games, measuring 5" × 2½". Other POP games with an AM radio include Voyager and Barrier.

Emergency requires you to skillfully operate a robot on the ground to receive a superhero who, for some inexplicable reason, is dropping from a base overhead. Meanwhile, an enemy plane is attacking the robot and the foot of the base. Successfully receiving a superhero is worth one point while scaring the enemy plane away or shooting it down is worth 10 points.

A successful mission by the enemy plane costs you an "error mark." After four such errors, the game ends.

Like the other POP games, *Emergency* operates on two watch batteries (the radio requires two more) which are included with the game. Incidentally, the radio uses a small earphone; it does not have sufficient power to drive a speaker or *Walkman*-type headset. Price is $29.95.

RADIO GAME WATCH

SAMURAI VS. NINJA THUMB POWER GAME

Masudaya has introduced nine Thumb Power "Play & Time" games. All are a compact 2½" × 4½" × ½" and fit easily in a pants or shirt pocket. Most of them have four functions: a watch which displays time of day, a stopwatch which times events to the nearest second (not good for running or swimming events),

PLAY TIME
LEFT
ATTACK
RIGHT
SAMURAI VS NINJA

PLAY & TIME
MULTI-FUNCTION
MASUDAYA
JUNGLE ADVENTURE WOODMAN
UMP
ATTA

an alarm, and the game(s). The time and the game are displayed in a 1½″ × 2″ two-color LCD display. Watch-type batteries are included with all games.

The display is in the center of the unit and the control buttons are on either side. The buttons are all soft-touch rubber; the game control buttons are large and the time buttons are smaller.

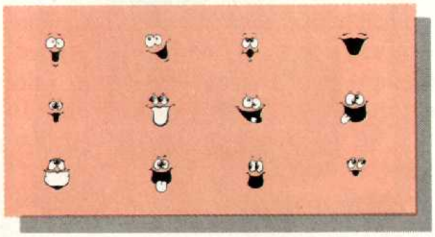
Samurai vs. Ninja is a classic cat-and-mouse game. As the Samurai, you move on a horizontal platform across the center of the display. It is your job to keep a sacred scroll out of the clutches of the slippery Ninja spies lurking below the platform. As each spy comes into view beneath a hole, you must press your attack button and launch your spear at him. But beware: the royal princess is a captive of the Ninja and you may hit her by mistake if you are not careful.

There are nine skill levels which afford varying amounts of time to score 30 points (20 to 60 seconds). If you score 30 or higher, you move on to Level B in which the wily Ninja attack from the ceiling. Tricky, these Japanese! This is definitely not an easy game to master, but who ever said the lot of a Samurai was an easy one?

BEWARE:
THE ROYAL
PRINCESS
IS A
CAPTIVE
OF THE NINJA.

JUNGLE ADVENTURE/WOODMAN THUMB POWER GAME

This game has the same four functions as the others in the Masudaya Thumb Power "Play & Time" series. The unit includes two games, Jungle Adventure and Woodman.



In *Jungle Adventure* you are a jungle lad. A vine swings back and forth at the top of the display like a metronome. You start in a tree at the right, and must press the jump button to catch the swinging vine, swing over to the left, and jump off the vine to reach your true love who is being held captive by a nasty gorilla. After linking up with your girlfriend, you must again catch the vine and swing back to your tree on the right. Sound tricky? It is, but that's not all.

As you are swinging, alligators may try to nip you as you swing by and the gorilla may try to prevent you from jumping off the vine. Yes, you have a mallet to hit your adversaries, but you must be quick on the control buttons to survive.

Sound effects? You bet. A beep when you hit the gorilla. A boop when you fall, and a short tune when you rescue your lady fair.

The game lasts three minutes, after which your score is displayed at the bottom of the screen. Two minutes is all you get in *Woodman,* the second game on the unit.

In *Woodman,* your job is to chop down trees in the jungle. Three strokes of the axe fell a tree, but a pesky lion rarely lets you get three strokes in a row. If you don't want to start over each time, your only recourse is to hop up in the tree when you see (or sense) the lion coming, and hop down as soon as he turns his back and continue to chop.

Woodman is not as much fun (or as challenging) as *Jungle Adventure,* but is a nice bonus on the game unit.

Thumb Power games are priced in the $25-$39 range including batteries—not bad for one or two games, a watch, alarm, and elapsed timer all in one compact unit.

NINTENDO DONKEY KONG POCKETSIZE

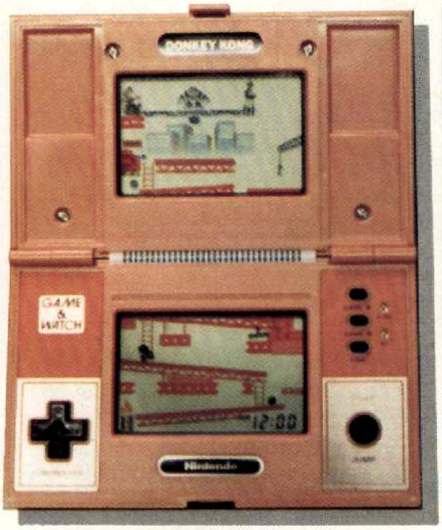
Nintendo has had four single screen pocket games on the market for about a year. However, they have now introduced a line of multi-screen games. Given the immense popularity of *Donkey Kong* in arcade and home video versions, we think it will be the most popular one of this new handheld series.

The game is slightly larger and heavier than other pocket games; the case measures 3″ × 4½″ × 1″ and has an attractive brushed brass top. The game hinges open to reveal two 1½″ × 2″ LCD screens. A red and blue overlay gives the impression of a colored screen. To the right of the bottom screen are three game select buttons and a larger "jump" button. To the left is a "plus" controller which has the same functon as a four-directional joystick.

The unit has a 24-hour time and alarm function; the time is displayed in the lower right corner.

The game has the same scenario as its big brother in the arcade, but a rather different method of play. Kong has captured the beautiful maiden and the hapless Mario must climb the girders to the top of the building to rescue her. Unlike the arcade version, Mario cannot jump the rolling barrels while he is running. Instead, he must stop in a place with no girders overhead and wait there, jumping barrels, until it is safe to move further along the beam. Complicating Mario's mission on the lower screen is an

COMPLICATING
MARIO'S MISSION
ON THE LOWER
SCREEN IS AN
OVERHEAD
CONVEYER BELT
WITH MOVING
GIRDERS



overhead conveyer belt with moving girders; hitting one of these is just as lethal as hitting a fixed girder.

On the top screen, Mario must trip a switch on the left which activates a crane on the right. When he reaches the crane, he must grab the swinging hook which lifts him up to where he can cut one of the cables holding the topmost girder on which Kong is prancing.

Mario is then returned to the bottom where he starts again on his perilous mission. After four cables are cut, Kong plummets to his death. But not for long—a new Kong quickly replaces him, and the game continues.

Mario gets 1 point for jumping a barrel on the lowest level, 2 points for one on the next level, and 5 to 20 points for cutting a support cable depending upon how long it took him to get up to the top. You start with three Marios. At 300 points, you are awarded an extra Mario. The maximum score that can be displayed is 999.

Sorry to say, Donkey Kong did not get rave reviews from our teenage playtesters. Although the B level of play is faster than A, they felt the game was a bit tame since Mario cannot jump while running along. On the other hand, some of the other playtesters felt that it offered more than enough challenge.

AFTER FOUR CABLES ARE CUT, KONG PLUMMETS TO HIS DEATH.

The package includes the game, two watch batteries, 90-day warranty card, two caution notices, and two red stickers to place over the battery compartment "to prevent babies from removing and eating battery." Thanks, Nintendo.

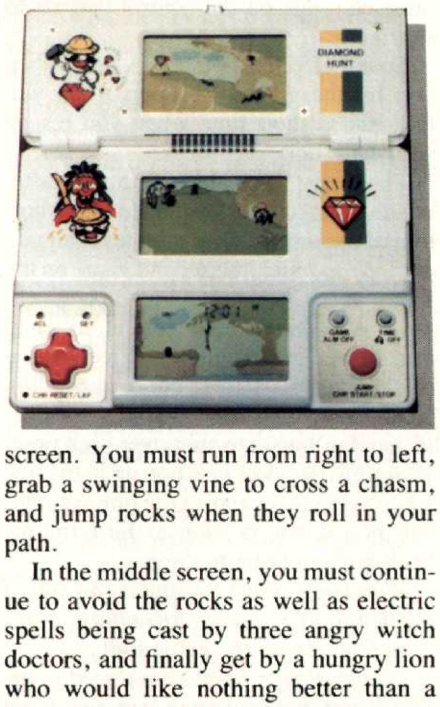
DIAMOND HUNT TIME & FUN GAME

V Tech (Video Technology) has introduced a wide array of Time & Fun pocket games ranging from ones that look like oversize pocket watches to the tri-screen series.

The tri-screen games measure 3¼″ × 4¾″ × ⅝″ when closed and open out to 5″ × 4¾″. Each of the three screens measures 1″ × 1¾″.

Each of the screens has a different game which can be played individually or as a continuous series. To the left of the bottom screen is a "cross" controller which functions as a four-directional joystick. To the right is a jump button and two smaller game/time select buttons.

In *Diamond Hunt* game A (bottom screen), a crazed elephant in the middle screen throws rocks down to the lower screen. You must run from right to left, grab a swinging vine to cross a chasm, and jump rocks when they roll in your path.



In the middle screen, you must continue to avoid the rocks as well as electric spells being cast by three angry witch doctors, and finally get by a hungry lion who would like nothing better than a plump diamond hunter for lunch.

The top screen is really hairy. You must jump over slithering, poisonous snakes. You can also kill them with a magic axe (5 points each vs. only 2 points for jumping a snake), but you cannot move forward toward the diamond (50 points) while you have the axe.

You have three diamond hunters in each game. Maximum score is 9999 (ha, ha).

The time and alarm functions are more extensive than most other pocket games. They include time in two time zones, alarm, date, and stopwatch. Two watch batteries are included. Suggested list price is $29.95.

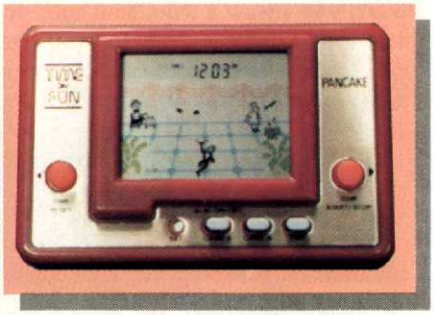
PANCAKE TIME & FUN GAME

Pancake is one of four compact pocket games, each with a 1.7″ × 1.3″ screen. *Pancake* uses just two directional buttons for right and left movement of a waiter. Two other games in the series, *Monkey* and *Banana*, have four directional control buttons.

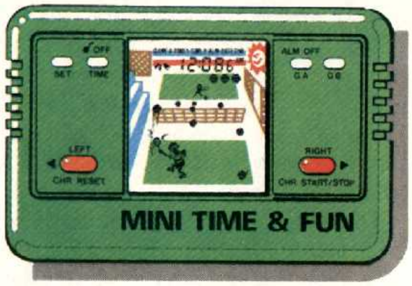
THE GAME IS EASY AT FIRST BUT BECOMES MORE DIFFICULT AS THE CHEF LAUNCHES MORE AND MORE PANCAKES SIMULTANEOUSLY.

It is the task of the waiter to catch pancakes being tossed about by an overly enthusiastic chef (at the right), and then deliver them to a customer seated at the left. Actually, the waiter doesn't exactly catch the pancakes; rather, he bounces them on his tray like a juggler.

The game is easy at first, but becomes more difficult as the chef launches more and more pancakes simultaneously. Five misses and the game ends. We found this one of the easier and less frustrating pocket games to play although we can't imagine anyone approaching the maximum score of 9999.

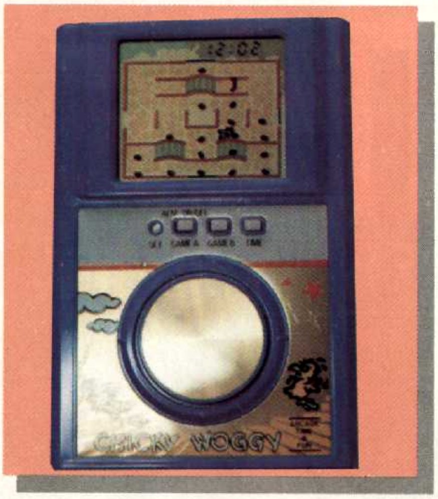


As with the other V Tech Time & Fun games, this provides time in two time zones, an alarm, stopwatch (to 1/10 sec), and date. It's a good buy for $19.95.



The Mini Time & Fun series of games have a slightly smaller screen (1″ × 1.4″) and sell for a few dollars less ($16.95). *Tennis* and *Hot Line* with just two movement buttons are relatively easy to play whereas *Bomb Fight* and *Hippo Teeth* are somewhat more difficult.

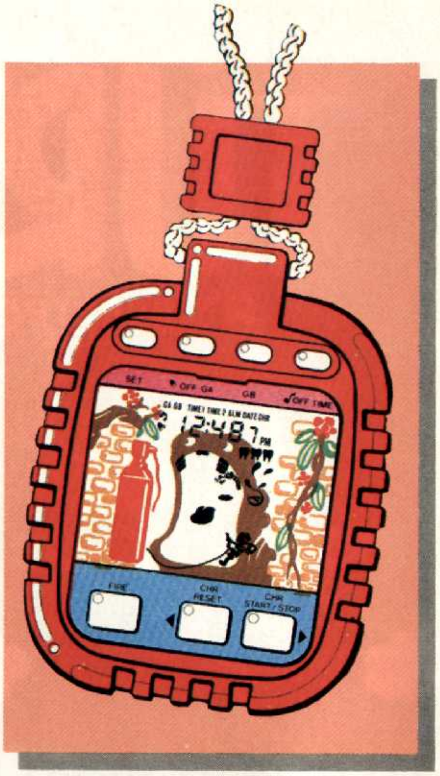
The Arcade Time & Fun games are somewhat larger (4½″ × 3″ × ⅜″) and have a large 1.2″ diameter disk which provides four-directional movement control. Playability of the two Arcade Time & Fun games, *Chicky Woggy* and *Monkey Jump*, was excellent. *Monkey Jump* has a theme similar to *Donkey Kong*, while *Chicky Woggy* is a Pac-creature type of game but instead of eating dots, chicky woggy lays eggs. She is pursued by wolves, but can eat magic snakes to give her temporary power over the wolves. Lots of fun for $19.95.



TEETH SPORTY TIME & FUN GAME

The four games in the Sporty series are in the shape of a large (2″ × 2½″ × ½″) pocketwatch on a heavy nylon cord. The screen is a smallish 0.8″ × 1″. The games are the same as in the Mini Time & Fun series; we tried *Hippo Teeth*.

In *Hippo Teeth*, nasty cavities are attacking the hippo's teeth. We would like to thank V Tech for showing us what a cavity looks like; it is a really evil-looking creature. The hippo obligingly keeps his mouth open so you, having shrunk considerably, can take your hose and wash off those nasty cavities. Good clean fun for $16.95.



Included are the same time functions as the other Time & Fun products. ■

OTHELLO

BY David H. Ahl

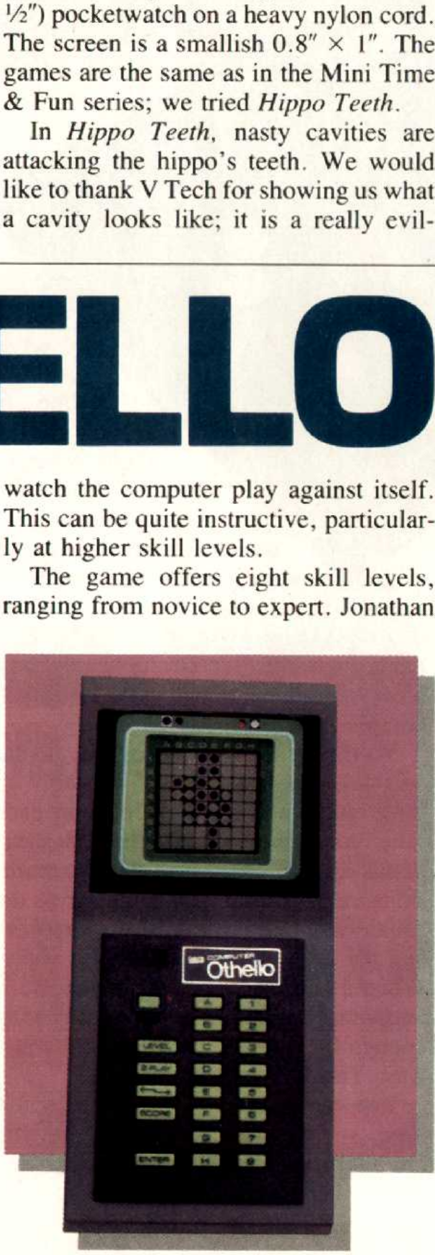
Computer Othello by Gabriel is a self-contained table top game with a 2″ square LCD screen. The screen displays the game in progress and the score at the end; it will also display the score prior to making a move.

The game can be played by one player against the computer or by two human opponents. We see little reason that two people would want to use this device to play since handling the pieces is part of the fun of playing Othello, however, the option is there if you want it.

Computer Othello allows either you or the computer to go first, however, according to standard convention, the player who goes first is black.

If you find yourself in a nasty predicament and want some help, you can switch sides with the computer for one turn, or as often as you wish. Indeed, by switching sides on every turn, you can watch the computer play against itself. This can be quite instructive, particularly at higher skill levels.

The game offers eight skill levels, ranging from novice to expert. Jonathan Cerf, the reigning world champion, would have no trouble beating the game at Level 8, however, normal mortals will find plenty of challenge at lower skill levels.



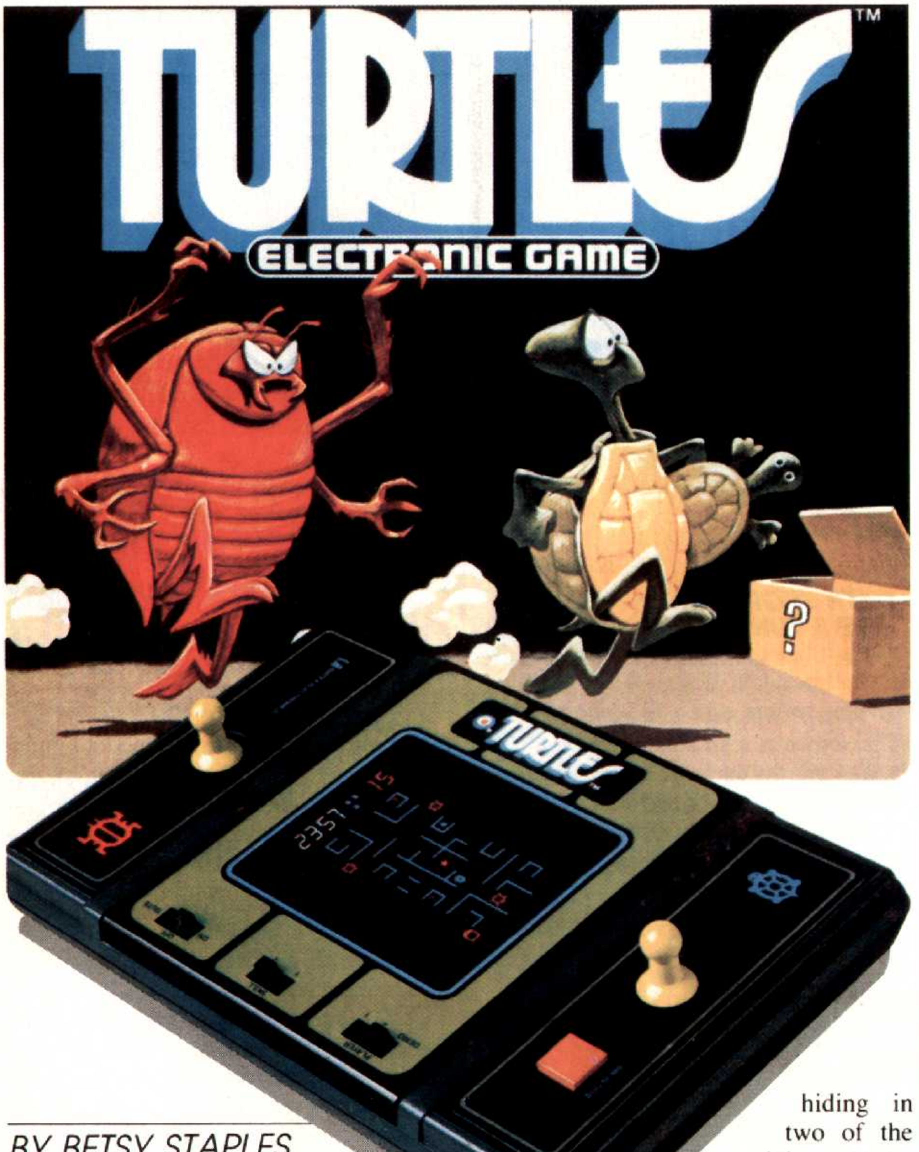
Entry of moves is simple; you just press a letter and number to define the row and column of your move. *Computer Othello* beeps acceptance of your move and flips the discs automatically. An illegal move causes a buzz and you must re-enter it.

If you don't make a move within 4½ minutes, the computer will make a warning sound. Pressing any key turns off the sound and resets the warning timer.

The 21-page instruction booklet includes the basic rules of Othello, however you may wish to turn to other sources for more in-depth playing hints and strategy.

Computer Othello requires four alkaline C-cells because of the high current drain. Unfortunately, it does not have provision for an AC adapter.

In summary, *Computer Othello* provides a skillful opponent any time of the day or night at any skill level you wish. This is a "must" game for *Othello* enthusiasts. ■



BY BETSY STAPLES

Tired of aliens and Pac-creatures? Looking for a self-contained game that young children can enjoy and teenagers find challenging? Try *Turtles* from Entex Electronics.

Turtles is a full size (as opposed to pocket size) self-contained game that has become a favorite with our panel of play testers. It works on four C-cells or an AC adapter.

Licensed by Konami, makers of the coin-op version of the game, *Turtles* features a valiant little turtle whose mission is to transport a covey of "turtlettes" (baby turtles? female turtles?) on his back from the "mystery squares" to a "safety house."

The turtle is controlled by a mini but very responsive joystick at one end of the game. You guide him around a not-very-intricate maze which is also inhabited by "evil attacking beetles."

At the beginning of each board, you are pursued by two beetles; two more are hiding in two of the eight mystery squares. When you poke your nose into a mystery square to release a turtlette, you may find that it is inhabited instead by a beetle. If you back away quickly enough, you can usually avoid being done in by the beetle, but it will soon enter the maze and join its mates in complicating your task.

Your only defense against the predatory bugs are bug bombs. You start with three bombs and acquire three more each time you pass through the "flashing bonus square" in the center of the maze. To use a bug bomb, you simply press the square red button next to the joystick, and the turtle deposits one in his wake. When a beetle touches the bomb, he is temporarily immobilized—usually long enough for the turtle to get out of harm's way. This is worth 20 points.

You can carry only one turtlette at a time, so you must deposit the one you are carrying in the safety house (30 points) before looking for another. When all six turtlettes have been rescued, the board clears and a new maze with eight mystery squares appears. There are two mazes which alternate, and you earn an extra turtle at 1000 points.

Three sliding switches on the side of the screen offer three very useful selections. The first is a three-position switch which turns the game on in either sound or mute mode. The game plays one of the cutest tunes we have heard on a game, but it can get tiresome. In the mute mode, the game is not entirely silent; the player can still hear the tune and the auditory cues that signal various kinds of activity, but the sound is not loud enough to be a nuisance to parents, teachers, or others in the room.

Another switch governs the skill level. There are two skill levels; on the second, the beetles move faster. Most of us found the speed on level 1 quite adequate for a spirited game.

The third switch allows you to choose a one- or two-player game. The second player controls one of three beetles on the screen with a second joystick. Most of our panel preferred the one-player game, but we found that one player playing with the switch set on 2 could rack up some really high scores.

As you have probably deduced, we like *Turtles*—very much. We found that players could improve their scores dramatically by practicing—a feature we always applaud—and that the game was considerably less stressful than many we have reviewed. It can be enjoyed by all members of the family, even those who usually shun electronic and arcade-style games.

In conclusion, we have but one question for Entex and Konami: Why would any self-respecting turtle flee from an insect—"evil attacking" or otherwise?

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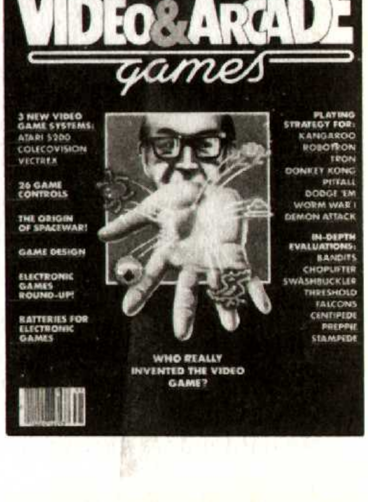
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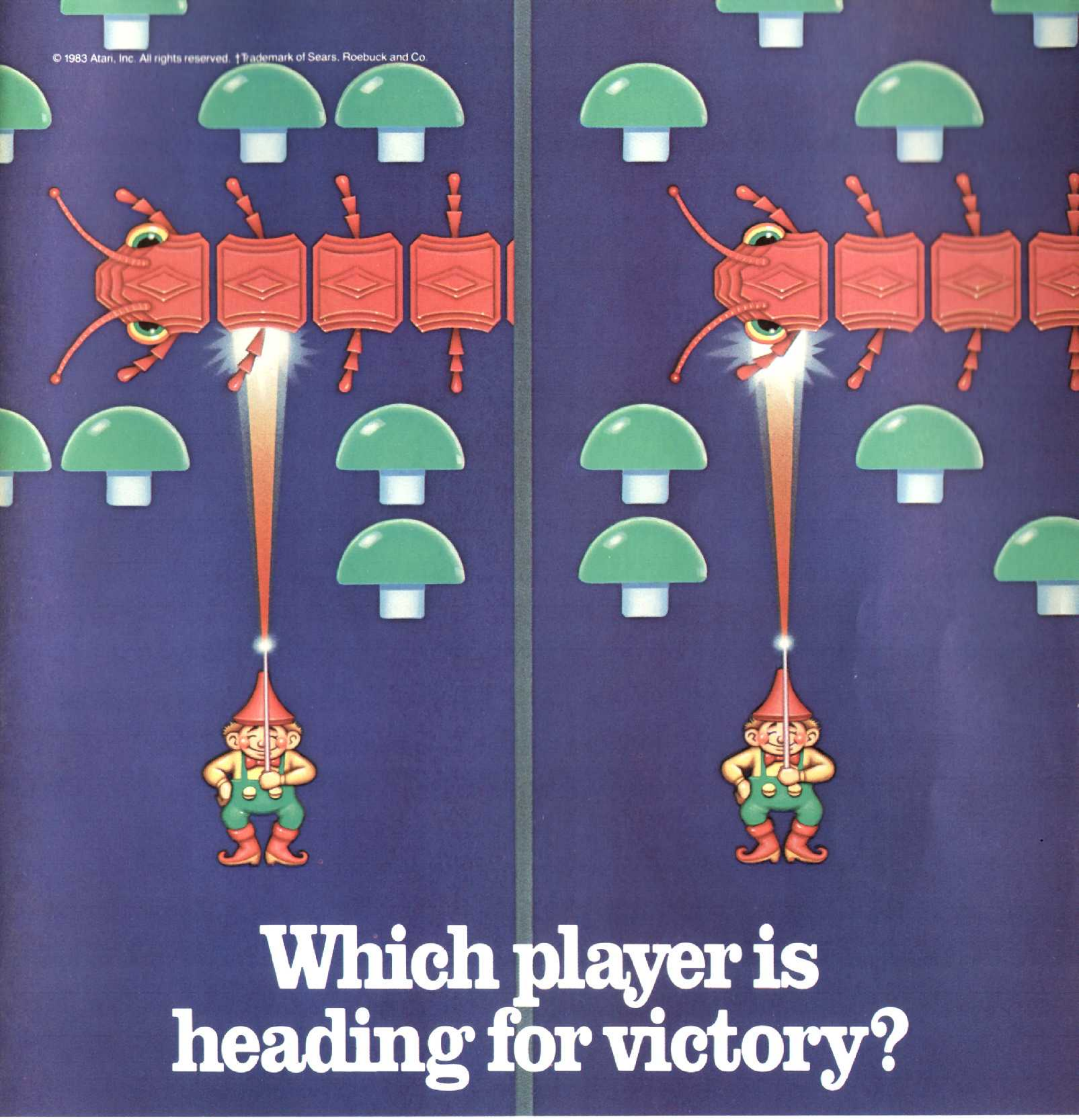

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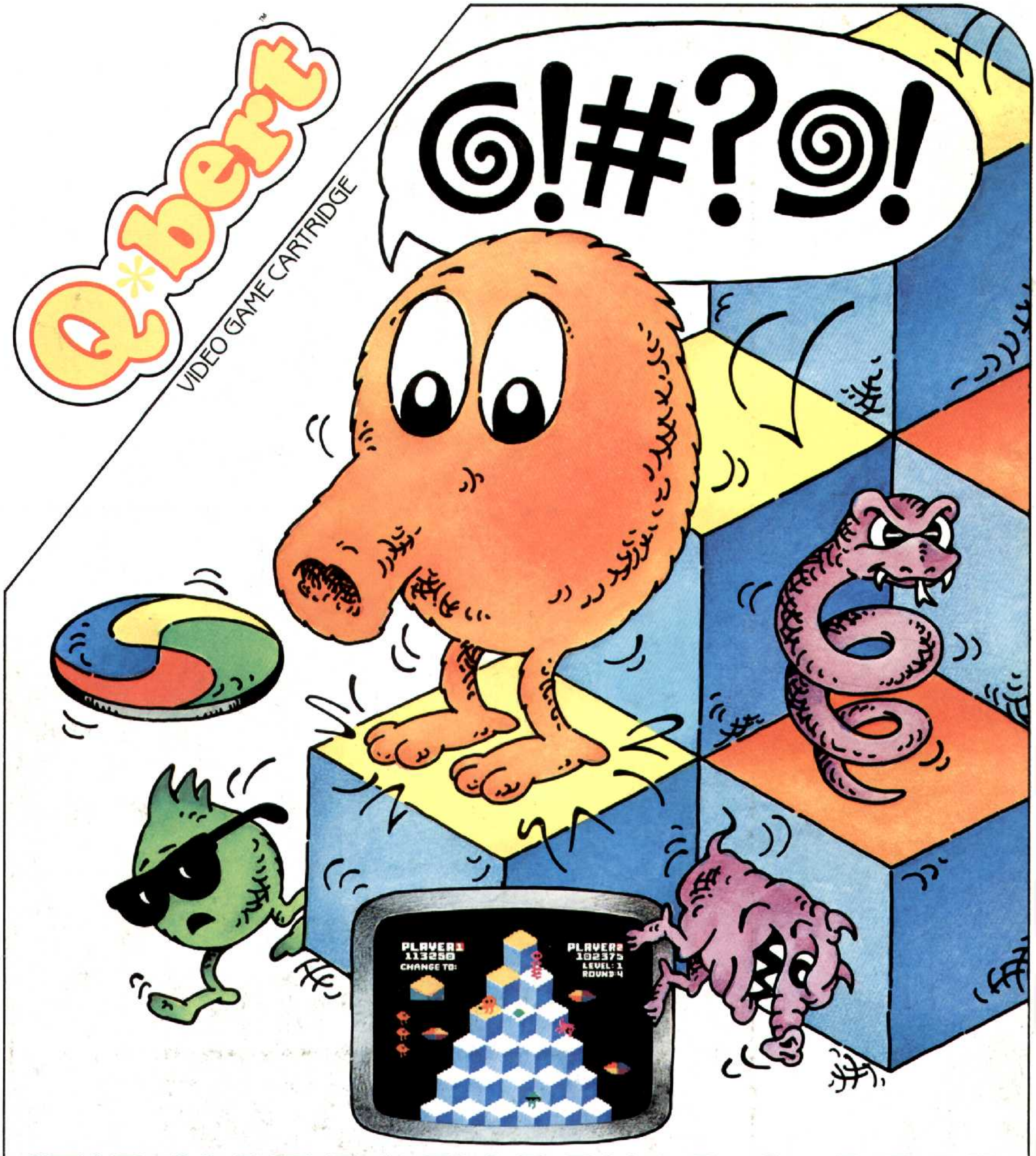

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